UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	
	)	Investigation No.:
DRAMS AND DRAM MODULES	)	701-TA-431 (Preliminary)
FROM KOREA	)	

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Friday,
November 22, 2002

Courtroom B
U.S. International
Trade Commission
500 E Street, S.W.
Washington, D.C.

The preliminary conference commenced, pursuant to Notice, at 9:30 a.m., at the United States International Trade Commission, LYNN FEATHERSTONE, Director of Investigations, presiding.

APPEARANCES:

On behalf of the International Trade Commission:

Staff:

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BONNIE NOREEN, SUPERVISORY INVESTIGATOR
MARY MESSER, INVESTIGATOR
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JOHN GIAMALVA, ECONOMIST
JAMES STEWART, AUDITOR/ACCOUNTANT
SCOTT BAKER, COMMODITY-INDUSTRY ANALYST
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APPEARANCES: (cont'd.)

In Support of the Imposition of Countervailing Duties:

On behalf of Micron Technology, Inc.:

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MICHAEL W. SADLER, Vice-President, Worldwide Sales, Micron Technology, Inc.
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In Opposition to the Imposition of Countervailing Duties:

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On behalf of Hynix Semiconductor, Inc. and Hynix Semiconductor America:

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I N D E X

P R O C E E D I N G S

(9:30 a.m.)

MR. FEATHERSTONE: Good morning. Welcome to the United States International Trade Commission's conference in connection with the preliminary phase of countervailing duty investigation Nos. 701-TA-431 concerning DRAMs and DRAM Modules From Korea.

My name is Lynn Featherstone. I'm the Commission's Director of Investigations, and I'll preside at this conference. Among those present from the Commission staff are Jim Stewart, the auditor and financial analyst; Bonnie Noreen, the supervisory investigator; Mary Messer, the investigator; Mary Jane Alves, the attorney/advisor; John Giamalva, the economist; Scott Baker, the industry and commodity analyst; and we're honored to be joined also by Bob Carr, who's the head of our Electronic Technology and Equipment Unit.

The purpose of this conference is to allow you to present to the Commission through the staff your views with respect to the subject matter of the investigation in order to assist the Commission in determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury or that the establishment of an industry in the United States is materially retarded by reason of imports of the

merchandise which is the subject of the investigation.

Individuals speaking in support of and in opposition to the petition have each been allocated one hour to present their views. Those in support of the petition will speak first.

The chair may ask questions of speakers either during or after their statements. However, no cross-examination by parties or questions to opposing speakers will be permitted. At the conclusion of the statements from both sides, each side will be given ten minutes to rebut any opposing statements, suggest issues on which the Commission should focus in analyzing data received during the course of the investigation and make concluding remarks.

This conference is being transcribed, and the transcript will be placed in the public record of the investigation. Accordingly, speakers are reminded not to refer in their remarks to business proprietary information and to speak directly into the microphones. Copies of the transcript may be ordered by filling out a form which is available from the stenographer.

You may submit documents or exhibits during the course of your presentations. However, we will not accept materials tendered as business proprietary. All information for which such treatment is requested must be submitted to the Secretary in accordance with Commission Rule 201.6.

Any documents that are letter size and copiable will be accepted as conference exhibits and incorporated into the record as an attachment to the transcript. Other documents that you would like incorporated into the record of the investigation should be submitted as or with your post-conference briefs.

Speakers will not be sworn in. However, you are reminded of the applicability of 18 USC 1001 to false or misleading statements and to the fact that the record of this proceeding may be subject to court review if there is an appeal. Finally, we ask that you state your names and affiliation for the record before beginning your presentations.

Are there any questions?

(No response.)

MR. FEATHERSTONE: If not, welcome, Mr. Kaplan. Please proceed.

MR. KAPLAN: Certainly. Thank you, Mr. Chairman, and thank you all for joining us here today. We certainly appreciate the opportunity to appear before you and make our presentations on this very important case.

Let me introduce our panel to begin with because I think we have some very good people and some people who know a great deal about this industry. First, to my right is Steve Appleton, who is the president, chairman and CEO of

Micron Technology. Mr. Appleton I don't believe has appeared before the Commission before and will provide an overview of the situation that led to the filing of this case and the impact that Korean subsidies have had on the DRAM market in the United States and on Micron in particular.

Then we will hear from Mike Sadler, vice-president for worldwide sales for Micron, who will discuss the unprecedented drop in DRAM prices over the past several years and the type of competition that Micron encounters with Korean producers.

Next, to my left, Mark Love from Economic Consulting Services will discuss how the excess Korean DRAM supply in the U.S. market has affected pricing conditions. Mike Esch, far to my right there, from Hale and Dorr will discuss products and domestic industry, and Bonnie Byers, an economist at Hale and Dorr, will briefly discuss threat of injury.

Let me just give some brief opening remarks if I could before turning it over to our distinguished witnesses. This is a very important case for Micron, as well as for Infineon, and I should add that Infineon is here with us, though not at the table, but they are supporting the case. Infineon and Micron are the only two companies still producing DRAMs in the United States besides the two Korean

companies.

This case is important because it seeks to address a truly outrageous practice that is occurring in Korea -- the targeting of the Korean DRAM industry as a whole and in particular the bailout of a company that if it were left to operate under normal market conditions would be out of business or at a minimum would be a fraction of its former size.

The Commission and the Commerce Department together have the opportunity to deal not only with the specific instances in this case, but to send a strong message to all countries that market mechanisms should pick winners and losers, not national governments. This case demonstrates all the traditional factors of causation and injury to the domestic DRAM industry.

Imports from Korea have been increasing, particularly since the lifting of the antidumping order on Hynix that was announced in October, 2000. Korean producers' share of the United States market is up over the period of investigation, while the U.S. producers' share is down. Pricing has decreased across the board, as will be discussed, at rates that far outpace any normal downward price trend that you would anticipate in this industry. In addition, there is clear evidence of price underselling, which has resulted in significant suppression and depression

of DRAM prices in the United States market.

Hynix and Samsung alone account for nearly half of global DRAM production. Korean producers, therefore, play a major role in establishing the supply in the U.S. market and consequently the prices at which DRAMs are sold in the United States. Micron has watched prices fall by nearly 90 percent in the past two years. Micron has done what a rational DRAM producer should do during a downturn. It has tightened its belt, cutting costs and delaying capital expansion plans that would only exacerbate the oversupply problem.

Not so the Korean companies. They continue to ramp new capacity. The Korean companies had to borrow extensively and take on a lot of debt to fund these expansions. Much of this funding came from government banks like the Korea Development Bank going over many years.

To make matters worse, when Hynix found itself unable to repay its debt the Korean Government stepped in to profit up with over $12 billion in assistance last year alone. These subsidies have the impact of prolonging and exacerbating an already unprecedented downturn in the DRAM market, enabling Hynix to continue to produce at full capacity. While Micron sees stiff competition from both Korean companies, Hynix in particular has engaged in aggressive sales practices in the U.S., as others on the

panel will elaborate.

As Mr. Appleton will tell you, Korean competition in the U.S. market has caused significant harm to Micron resulting in two years of unprecedented operating losses and forcing Micron to cut spending on expenditures that help keep Micron at the cutting edge of DRAM production. This is unacceptable, particularly when the cause is the Korean Government underwriting the continued existence of an otherwise bankrupt company. The United States has already lost all the rest of the U.S. based DRAM producers. We need to take action here so we don't face any continuation of that trend.

I also want to note one thing which Mr. Byers will pick up on at the end of our presentation, which is that Micron felt it was important to file a countervailing duty case when it did because it has become clear over the past several months that the Korean Government and the banks it controls are not done with their subsidization practices.

It has been widely reported in the Asian press that Hynix's financial advisor is now recommending a new round of financial assistance to Hynix amounting to another $2 trillion yuan or about $1.75 billion. This would include another debt for equity swap, debt forgiveness, and extension on maturities of remaining loans. In addition, it has been reported that Hynix is also asking the government

for $1 trillion yuan or $784 million in new funding so it can upgrade its production equipment. This clearly poses a whole new threat to producers like Micron.

With that I'll conclude my opening and ask Mr. Appleton to take over here, as I'm sure he can.

MR. APPLETON: Thank you, Mr. Kaplan. Good morning, ladies and gentlemen. I sincerely appreciate the opportunity to share some thoughts with you today. My name is Steve Appleton. I am the chairman of the board, CEO and president of Micron Technology. I'm not here today to speak about this case based upon the data that my team has collected and provided, most of which you either have before you or will have before you, but based on my personal experience and knowledge in this industry.

This is an important case not only for Micron, but for the international trading system. When I joined Micron almost 20 years ago, we were a small, struggling, startup company. Of course, that didn't matter. We believed in a dream. We believed that if we innovated and outperformed our competition that we would prosper and we would share in those rewards.

It took a little more than 18 months before I experienced my first real world environment. The Japanese dumping forced out of the market nine out of the 11 U.S. DRAM producers, and it almost wiped out our little company

in Boise, Idaho. Ultimately, as many of you are aware, the U.S. Government saw the Japanese actions for what they were. They put in place an antidumping order, and Micron was given a chance to live another day.

It was only after all of the data came to light many years later that we realized that even at that time Micron was the lowest cost manufacturer of DRAM in the world. Little did I know that the pursuit of a level playing field would be a lifelong challenge.

By the time we reached the early 1990s, the Korean companies at that time, -- LG, Samsung and Ingdyne, now known as Hynix -- in conjunction with their government and using the Japanese model, were heavily targeting the DRAM industry as an area of growth. They built incredible amounts of capacity, often spending more on equipment in one year than their annual revenues.

This expansion could only be accomplished through one avenue, and that's debt. They built an incredible amount of debt. They built incredible amounts of capacity. Their expansion continued year after year regardless of the market demand. This ultimately led to the dumping of products on the U.S. market and resulted in trade cases many of you are familiar with. Despite those cases, this practice continues to this day.

It is true Micron has been able to grow through

this period, but it's not been without a lot of pain. At times we have contracted and expanded with the market. We have been fortunate in that as other companies exited the DRAM industry we were able to join those assets and employees with Micron's operations. A key point is that our growth was through the acquisition of existing capacity, not through the creation of new capacity. Today, we are the second largest producer of DRAM in the world, which is an incredible achievement given the unlevel playing field that we have had to overcome.

However, I'm here to tell you that we are at a dangerous point in our corporate life. This critical moment exists because of the manipulation of normal market principles. More specifically, it exists because of the Korean Government's direct intent to maintain and grow their world share of the DRAM market regardless of the cost. Those costs have been huge.

I used to tell our employees and our shareholders that eventually even the Korean Government would run out of money. The Korean Government did run out of money in 1997 and was largely attributable to the massive investment being made in DRAM capacity with no financial return. The history books now show that the IMF needed to inject $60 billion into the Korean financial system to keep it from defaulting on its national debt.

I testified before the House Banking Committee in early 1998 that without true corporate reform as a condition for the IMF loan, we would again experience the unlevel playing field created by government subsidies to the Korean DRAM industry. Ladies and gentlemen, unfortunately my worst fears have come to pass. The Korean DRAM companies have continued to add capacity during the worst period in our history.

I don't want to dwell on the subsidies provided by the Korean Government because I know you have data regarding what in my mind are staggering sums of money provided to the Korean DRAM companies. I want to focus more on what is happening to Micron has a result of these subsidies. Despite my pride not wanting me to say this, I am running out of answers on how to deal with it.

If we were not competitive I would have no complaints, but that is not the case. The severity of what is happening to Micron is occurring needlessly because a company that for all intents and purposes is bankrupt is being artificially protected from normal market principles.

Let me list the challenges we face as a result of this. It's clear the selling price of the product is far below the cost of our production and is directly attributable to the irrational market behavior by the Koreans. We lost $1 billion in 2001. We lost $1 billion in

2002. Our fiscal 2002 ended a couple of months ago.

We cannot replace critical positions in the company. I want to pause for a moment and talk about that because often in particular I think our critics would point to Micron and say well, they haven't cut the company in half, or they haven't laid off thousands of people, but I think it's important to note that when Micron went through a period of near death in the 1980s I was there. I was responsible for a lot of what was happening there, and it was very, very painful to do. I made a promise to myself and I made a promise to our people that we would do all we could to keep them.

We have about 13,000 people in the United States. We have been able to avoid massive layoffs by making other changes. Sure, people have different jobs. They work different hours of the night sometimes. They have lost benefits and so forth, but the fact of the matter is we've tried to keep our commitment to those people, and we shouldn't be penalized for that in the evaluation of what's going on here.

We have not been able to complete a wafer facility that we constructed in 1995, seven years ago. We have a facility 30 minutes from this building that's being one-third utilized. We have an R&D facility that's only partially operating. The list goes on. Not to emphasize

this because this is not the point; I personally have not received one dime of compensation in over a year.

There is no question this activity is injuring Micron. The activity by the Korean Government to subsidize the DRAM industry must be addressed. We hope you will assist us in this endeavor.

Thank you for your time.

MR. KAPLAN: Mr. Sadler?

MR. SADLER: Good morning, Mr. Chairman and members of the Commission staff. My name is Mike Sadler. I am vice-president of worldwide sales for Micron Technology. I've testified previously before the Commission and the Commission's staff on behalf of Micron.

As the Commission has previously recognized, DRAMs are essentially a commodity product sold on the basis of price and price alone. The commodity nature of DRAMs arises from the realities of the DRAM business. The vast majority of Micron's competitors, including specifically Samsung and Hynix from Korea, manufacture DRAMs that are equivalent in performance to our own.

Samsung and Hynix, like Micron, are qualified suppliers to large and small customers throughout the United States. Samsung and Hynix both introduced new products and commercial volume within the same relatively short time span as our own commercial production introduction.

Finally, DRAMs, unlike microprocessors, do not enjoy brand name recognition. In illustration, a consumer does not buy a computer advertising Micron Inside. Therefore, Micron cannot expect a price premium relative to other DRAM manufacturers.

In sum, while we at Micron seek to distinguish ourselves based on superior technological leadership and service, our customers have proven that they buy DRAMs on the basis of price. The electronics business in general, as characterized by the PC industry, shows a similar trend as these products become more commodity like and, as a result, quite price sensitive.

The price collapse in the DRAM industry should not be confused with reversals suffered by the general technology sector. Unlike the tech sector in general, the DRAM industry did not experience an extended boom period. Rather, our boom occurred only in the year 2000. Unlike the tech industry, when the bubble burst in 2000, demand in our market did not fall. In fact, DRAM demand actually increased after 2000 even as DRAM prices plummeted.

The principal cause of this extraordinary price collapse that Mr. Appleton referenced, as other witnesses will also emphasize, is surplus production by Korean manufacturers, surplus production that is financed by unlawful Korean Government subsidies. The tech market

collapse, however, has resulted in even greater DRAM price sensitivity from our customers. This intensifying focus on price has exacerbated the price collapse in our market and magnified the injurious impact of the unlawful Korean subsidies.

Competition among suppliers in the DRAM market, especially by Hynix and Samsung, has compelled Micron to cut prices in order to win orders and defend our share of our customers' business. Over the past couple of years, we have even had to price DRAMs below cost of goods sold or face the loss of valuable business.

Although we have documented lost sales and revenue at specific accounts, we know that we have only scratched the surface. Our losses have been much more extensive than what has been documented, with price declines in particular affecting every single customer account in the United States.

One example is our recent experience with a well-known domestic computer manufacturer. Our average share of this manufacturer's business has been approximately 40 percent with Hynix being about 20 percent. If Hynix had not been participating with subsidized supply, Micron's share would likely have increased towards 50 percent. Furthermore, Hynix retained its share through aggressive pricing tactics, forcing Micron to cut our prices to protect

our share. Although impossible to quantify on a transaction by transaction basis, the overall annual loss is certainly in the hundreds of millions of dollars at this customer alone. This type of example is repeated across virtually customer we deal with nationwide.

Hynix, among all of our competitors, is the most aggressive on price. Even though Hynix has been on the verge of financial collapse for years, the Korean Government has intervened time and time again to keep the company afloat. Due to the unlawful subsidies provided by the Korean Government, Hynix has been and continues to operate without the same regard for costs and profit that drive Micron and other unsubsidized DRAM manufacturers.

Let me give you a couple examples of Hynix's pricing tactics from a July, 2001, brokerage report from Credit Suisse First Boston, and I quote. "We have erased the 20 cent to 25 cent contract price premium for DRAM sales in second half '01 as we believe that Hynix Semiconductor will continue to sell aggressively into this market."

Just two months ago, from J.P. Morgan, "We expect Hynix to continue to aggressively play on the DRAM market by selling at below market prices to maximize cash inflow while reducing inventory via an expected increase in production out. As a result, we believe this news is negative for the DRAM market, as well as for DRAM spot market prices."

Micron has received numerous reports from the market that Hynix routinely sells to contract buyers at spot market prices. As you may recall, in the Taiwan DRAM investigation the Commission expressed concern that Taiwan producers were selling more on the spot market, while U.S. producers like Micron were selling more to OEM customers. While I believe that this concern was misplaced, there is absolutely no doubt that Samsung and Hynix are both selling substantial volumes of product to OEM customers.

Even if a pattern existed distinguishing the focus of Korean and U.S. DRAM producer sales efforts, spot market prices impact the ultimate sales prices for OEM customers. Although OEMs do not usually buy DRAMs on the spot market, they are well aware of spot market pricing. As a matter of fact, they receive daily solicitations of spot market sales offers and routinely use these offers to drive prices down in our regular purchase and sales negotiations.

Micron always hopes to obtain a price premium on OEM sales because we have established ourselves as a long-term, dependable supplier of the highest quality DRAMs to these customers, but our ability to do so is completely undercut when our competitors, including Hynix, are willing to supply them at the equivalent of spot market prices.

Finally, we are not talking about two relatively minor players in the U.S. market. Both Samsung and Hynix

are major suppliers in terms of volume. Samsung has a substantial U.S. market presence and is a formidable competitor across all of our accounts. Hynix by itself is significant in terms of U.S. sales volume and appears desperate to buy an even larger U.S. market share through aggressive pricing tactics.

Subsidized Korean production has resulted in a DRAM market for Micron and other domestic producers that has never, ever been worse. It is increasingly more difficult for us to make sales and impossible to generate a profit as demonstrated by our sustained period of losses. Korea's unfair trade practices in providing these unlawful subsidies are an obstacle that we may not be able to overcome without your intervention. The record in this investigation will establish that imports from Korea are causing material injury to the U.S. DRAM industry.

I sincerely appreciate the opportunity to appear before you again and welcome any questions that you may have. Thank you.

MR. KAPLAN: Thank you, Mr. Sadler.

Mr. Love?

MR. LOVE: Thank you, Mr. Kaplan. Good morning. My name is Mark Love. I am senior vice-president of Economic Consulting Services, consultant to Petitioner in this investigation.

Mr. Chairman, I have a set of five exhibits that will accompany my remarks, and I would like, if I could, to introduce these at this time.

MR. FEATHERSTONE: We'll accept them as Collective Conference Exhibit 1.

MR. LOVE: Thank you. I don't think I can match the eloquence of the previous witnesses in describing the massive Korean Government subsidies and the injury that's caused to the domestic DRAM industry. My testimony will in somewhat more workmanlike fashion elaborate further on the injury inflicted on the domestic industry and demonstrate how this injury has been caused by subsidized DRAM supply from Korea.

I will make three points. First, DRAM supply from the Korean industry is a major factor in supply/demand conditions in the U.S. and world DRAM markets. Second, unlawful subsidies have supported an extraordinary increase in DRAM supply by the Korean industry. Third, and this will consume the bulk of my testimony, the increase in DRAM supply by the Korean industry has been a major factor in depressing DRAM prices.

On the first point, the very size of Hynix and Samsung should leave no doubt that Korean supply is a major factor in supply/demand conditions in both the U.S. and world DRAM markets. Of the approximately 30 fabricating

lines operating in the world today, Hynix and Samsung together operate 13. Eleven of these are in Korea, and I would note that I believe four of those 11 have been brought on stream during the period of investigation.

In terms of DRAM output, Korea's dominance is greater. We estimate that the two Korean companies together account for approximately 40 percent of the world total and that over the 2000-2001 period of the intense DRAM price declines they were roughly of equivalent size. As Mr. Kaplan stated in his testimony, some estimates put their share of total world output closer to 50 percent today. I refer you to Exhibits 1 and 2 with data that support these statements.

On Point 2, the increase in supply by Hynix and Samsung has been dramatic during the last two years. We estimate that from the year 2000 to the year 2002 output growth for Hynix and Samsung alone, the growth alone, exceeds the total supply of those two companies in the year 2000.

This growth was so large that the addition to supply by Hynix and Samsung since 2000 amounts to approximately 20 percent of total U.S. supply today. That is, the addition over those two years is currently equal to about 25 percent of total world supply. In other words, had Hynix and Samsung output remained at 2000 levels, total

world supply right now would be 25 percent less. This will become important as I go on.

If we focus just on Hynix, the Korean producer that has received the largest subsidies, we estimate that the expansion of Hynix's output alone over the 2000-2002 period accounts for approximately ten percent of total world DRAM output today.

We expect the Commission's questionnaire data will refine these estimates to a more accurate measurement, but the conclusion will be the same. Subsidized supply expansion by the Korean producers has been significant enough to be a major factor in world DRAM market conditions, and it is this supply growth by Hynix and Samsung that has fed the growing supply of imports into the United States, causing the material injury to the domestic industry that Mr. Kaplan summarized.

My third point involves the inevitability of price depression worldwide resulting from the subsidization of the dominant Korean industry. I start with the axiom that the benefit of subsidies relieved Korean companies of major cost and thereby gave them the flexibility to price wherever they needed to move the product. This price flexibility has directly contributed to lower prices in the U.S. market and to the price underselling that Micron has faced for two years now.

As important as this direct pricing flexibility has been in causing price depression, in this case the extraordinary increase in subsidized DRAM supply has played an even greater role. To analyze the price depression related to this supply expansion requires an understanding of the fundamental determinants of DRAM price behavior, a subject which the Commission staff has elaborated on extensively in the past.

I've identified from that previous elaboration four determinants that explain both the short-term and long term price trends observed in the market, and I will review them briefly. First of all, there is a natural, long-term, downward trend in DRAM prices related to technology driven cost declines. As noted in the prior ITC investigation, one can normally expect a price declined related to cost improvements on the order of 20 percent per year roughly.

The problem during this period of investigation, however, is the extreme declines in price far exceeded what could be expected from steady reductions in per bit costs of production. I provide in Exhibit 3, to which I turn your attention, a graphic representation of actual DRAM prices plus an estimation of the price trend adjusted for cost reductions due to advances in production process technology.

Just a comment or two on Exhibit 3. The solid black line, of course, represents actual market prices.

This would be in cost per megabit so that we're not struggling with the problem of prices of different density products over different periods of time, so it's a consistent series. You will note that this dark, steady line along about the end of 2000, beginning of 2001, crossed the cost adjusted line. This was in the process of the major price decline that has been referred to several times.

I would just note there that it was right at that point that the first bailout of Hynix occurred, and we believe that had significant impact on driving prices down to the low point that you see toward the end of 2001. The crossover point, by the way, is consistent with the development of huge operating losses by the world industry in 2001 and 2002. That's not coincidental, by the way.

The second price determinant that I identify relates to the fact that prices will typically exhibit sustained wider swings uncorrelated with the underlying cost trend that can last for up to a period of a year or more. We see such a sustained price trend on Exhibit 3 over the period from 2000 to 2001. These wider swings are caused by differentials that occur in the rate of supply growth relative to the rate of demand growth.

Now, demand for DRAMs has increased at a high annual rate every year since the industry began. This we know. Supply in general has commensurately grown with

demand over time, but the two have rarely moved in perfect synchronization. There are good reasons for that. Predictions of demand growth even one year out by market participants are not often precisely accurate, and there are greater margins of error typically in forecasts two or three years out, so temporary mismatches in demand and supply are frequent.

Moreover, producers cannot increase supply quickly in response. This is well established. There are long lags anywhere from one to three years between the time a company decides to increase capacity and the time the new capacity is brought into full production, depending on the nature of the expansion.

The third price determinant, closely related to the second that I just went through, involves the well-established price inelasticity of both DRAM supply and DRAM demand. This inelasticity means that modest shift in demand or supply or the expectation of such shifts will lead to proportionately significant price movements.

Here I turn your attention to my Exhibit 4, which is just a simple illustration. This is not a fancy exhibit, but just visually provides you with an understanding of how conditions of inelasticity in supply and demand will lead to significant price changes if, for example, in this case supply shifts outward by a given amount.

By contrast, on the right side of that Exhibit 4 you see conditions of elastic supply and demand, the same supply shift. Let's assume that that supply shift caused by Hynix will result in a much smaller price movement. In this market, much of the volatility and sustained price swings really does relate to the inelasticity of both supply and demand, which generates much bigger price movements.

If we take the second and third price determinants together, that is the regular mismatch of supply growth and demand growth, and combine it with the inelasticity issue, we can explain much of the volatility consistently exhibited by DRAM prices. Because supply and demand are so inelastic, once supply growth overtakes demand growth prices will decline significantly, even proportionately more than the quantity of the relative supply growth.

The key point for this case is that the ability of the industry to restore a sustainable supply/demand balance within these conditions, and there is always a constant readjustment to get to a sustainable supply/demand balance, i.e., a profitable price. It depends critically on all producers being subject to market driven constraints of cost.

If a large producer engages in capacity expansion such as, for example, Hynix has done over the last several years that is sustained by massive subsidies, that addition

to supply will short circuit market based adjustments toward a sustainable supply/demand balance, and this will be true regardless of demand conditions.

Now, Respondents may attribute the drastic fall in DRAM prices solely to the normal market cycles experienced by the DRAM industry. Listening to Mr. Appleton, I'm wondering what a real, normal market cycle would be in this industry, but, nevertheless, we'll refer to a normal market cycle.

We think such a contention fails to explain the unprecedented price collapse experienced in the current market, nor does it account for the subsidized, financially unjustified expansion of supply from the largest DRAM producing country in the world; an expansion that will cause price depression and price suppression again regardless of where you are in the market cycle.

Unfortunately, this Korean supply expansion hit the market during a cyclical downturn in the U.S. economy, pushing DRAM prices down even further than would have otherwise occurred. Korean expansion during the last two years basically turned the last two years into a financial debacle for world producers.

It is true the decline in prices during late 2000 and 2001 as seen in my Exhibit 3 was due to a reduction in the rate of growth in DRAM demand from levels in prior

years. This reduction in DRAM demand growth reflected the effects of the recession on business and consumer consumption of computers and computer systems.

However, the high growth in the amount of DRAM memory incorporated in each of these computers or systems offset the unit decline, yielding a continued strong, but somewhat reduced, growth in DRAM demand. Again, subsidized additions by Korea to world and U.S. supply were a significant part of the supply/demand conditions.

The fourth and final price determinant factor I would like to consider relates to the commodity nature of the product. This was discussed by Mr. Sadler, and I would extend this as follows. The commodity nature of the product plus the highly organized way in which the product is bought and sold endows the DRAM market with price characteristics of an asset market where expectations of future supply and demand conditions constantly affect current prices.

We believe, for example, that each of the three Hynix bailouts starting in January, 2001, significantly changed expectations about the likely rate of continued supply growth of Hynix. When market participants realized that Hynix would be resuscitated by government largess and would have the ability to operate outside the normal cost constraints applicable to domestic producers, price became further depressed.

Here I refer you to my Exhibit 5. It shows price trends over the period from December, 2000, to December, 2001, putting again the prices on a per megabit basis. This shows prices for the 64 MB and the 128 MB, kind of the all weather product, over this period of time. We see that the prices fell from 5.5 cents to a low of approximately one cent, which, by the way, was down to at, near or below variable cost unprecedented.

The bailout of Hynix, which changed market expectations of future supply conditions, were, in our opinion, a significant factor in these price declines. You can see there was one in January '01. There was another one in May '01, and there was a final one in October '01.

I'd like to try to make the importance of the role of expectations a little clearer if I could. I would do that by posing a hypothetical. Let's assume that there was an announcement by the Korean Government today, and that announcement went something like this. We are going to forswear all further subsidies and support for the DRAM industry in Korea. In addition, we are going to request that Hynix immediately take action to find a merger partner and, barring that, sell their assets. We want this to occur by the end of the year.

Now, expectation theory, and given the large size of Hynix, one would expect that that announcement would

cause an immediate increase in prices in the DRAM market. As it played out as actually coming to pass, those would be sustained large increases in DRAM prices. This announcement would bring the promise that supply would be determined once again by true normal market costs; that DRAM companies would succeed or fail on the basis of their efficiency and sound financial management.

It would also introduce the concept that consumers should actually pay as much as the product costs, which has not been the case for the last two years. That's not an unreasonable objective I would think. That's why we're here. I would daresay that if you asked most of the DRAM producers in the world, they would heartily agree with my prediction that that announcement would cause a significant price increase.

If you take all of the factors I've laid out here, I've come to the best guesstimate that I could of what the price would be today if the subsidized supply expansion had not occurred, and my guesstimate is about at least 25 percent. Prices would be higher by that amount today were it not for the subsidized expansion from Korea. I've been advised by participants in the industry that that's a very low number and it would be significantly greater than that, but I put that as a floor, as a minimum. Even the minimum would constitute the significant cause of material injury

that's been going on in this industry.

That concludes my comments. Thank you very much, Mr. Kaplan.

MR. KAPLAN: Thank you, Mr. Love.

Mr. Esch?

MR. ESCH: Thank you. Good morning. My name is Michael Esch. I'm a partner with Hale and Dorr. I'll briefly address two issues in this case; first, the appropriate definition of the domestic like product and, second, the domestic industry and application of the related parties provision.

The scope of this investigation as initiated by the Department of Commerce covers all dynamic random access memory or DRAM. This includes both finished and unfinished DRAM and finished DRAMs that have been further advanced by the relatively minor and simple attachment of the DRAMs to a circuit board to form memory modules.

As the Commission has recognized in past investigations, DRAMs constitute a distinct group of semiconductor products that are distinguished by their physical characteristics and functions. Scope, therefore, includes all forms of DRAM, but excludes other forms of memory devices such as SRAMs, static random access memory, or flash memory.

Petitioner submits that as the Commission has

found in past investigations, it should again find that there is a single like product consisting of all forms of DRAM. The distinct characteristics and function of DRAM products provide a clear dividing line between DRAM and other types of memory devices. At the same time, the similarity in production, functions and uses of the various densities and types of DRAM amply supports a finding of a single like product.

The domestic industry producing the domestic like product consists of all U.S. producers of DRAM. This includes the domestic producers that fabricate DRAM, any companies that may exist that would package DRAM from uncased imported DRAM dies, and companies like Micron and Infineon that both fabricate and package DRAMs in the United States. This definition again is consistent with the definition adopted by the Commission in its past investigations.

In addition to Micron and Infineon, which both fabricate and package DRAMs in the United States, there are several companies listed in the petition that have fabricated DRAMs in the United States in the last three years. Two of these are Samsung Austin Semiconductor, a subsidiary of the Korean Respondent, Samsung Electronics, and Hynix Semiconductor Manufacturing, a subsidiary of the Korean Respondent, Hynix Semiconductor.

Under the related parties provision of the statute, the Commission must determine whether these two clearly related parties -- not related to each other, but related to a foreign exporter of the subject merchandise; whether these two U.S. producers should be excluded from the domestic industry for purposes of your analysis.

Two of the key factors that the Commission must consider in applying the related parties provision are, first, the reason that the domestic producer has decided to import the subject merchandise and, second, whether inclusion or exclusion of the related party would skew the data for the rest of the industry.

With regard to the first factor, I believe it's quite clear that the primary interest of the parent producers, the Respondents in this case, lies in their Korean operations. Each of the Korean headquartered producers operates multiple DRAM fabrication facilities in Korea, while having just one such facility in the United States. Moreover, the U.S. facilities are not integrated producers. All of their production is shipped to Korea for packaging and finished DRAM.

With regard to the second factor, we ask that the Commission look very closely at the questionnaire response data to determine whether the financial condition of the U.S. operations of these two producers are generally in line

with the results reported by the other U.S. producers or not. If they're not in line with the rest of the industry, inclusion of the results would skew the analysis, and we believe they should be excluded.

That concludes my presentation.

MR. KAPLAN: Thank you, Mr. Esch.

Ms. Byers?

MS. BYERS: Good morning. My name is Bonnie Byers, and I'm an international trade economist with the law firm of Hale and Dorr.

The previous panelists have provided compelling evidence regarding the current impact that subsidized Korean imports have had on Micron. These factors alone provide sufficient grounds for a finding that the U.S. industry producing DRAMs is suffering current material injury as a result of imports from Korea.

It should not be overlooked, however, that U.S. DRAM producers are also facing further injury because of an imminent onslaught of subsidized DRAM from Korea. The reasons for this are straightforward. Ongoing subsidies to Hynix and Samsung will allow these two companies to continue to increase their production levels and to export even more subsidized product to the United States.

Many of the factors that point to threat are present in this case, including the nature of the subsidies

concerned, a significant rate of increase in imports, substantial new capacity in Korea, price depressing and suppressing effect and a high probability that DRAM that may become subject to a countervailing duty determination in the European Union would be diverted to the United States.

There is also clear evidence that current subsidized imports from Korea are having an impact on Micron's ability to develop the next generation of DRAM. I will discuss each of these briefly, and then we would cover them much more fully in our brief.

The most compelling reason that the Korean imports threaten further injury to the U.S. industry is that the Korean Government and the banks that it controls are poised to provide huge new bailouts to Hynix. Just yesterday, the *Financial Times* reported that Hynix's government directed creditor banks would bankroll the sale of Hynix's flat screen business to a Chinese company, a move that analysts agree amounts to a $380 million indirect subsidy to Hynix.

Worse still, next week a whole new bailout for Hynix is scheduled to be unveiled in Korea. This $2 trillion yuan, which is about $1.75 billion, debt relief package is reported to include additional debt forgiveness, interest rate reductions, extension of loan maturities and another debt for equity swap. Moreover, some reports indicate that Hynix is also looking for another $780 million

in new loans so that it can finance the purchase of new capital equipment.

Finally, Hynix announced yesterday that it would issue unsecured bonds bearing the unbelievable coupon rate of only 6.5 percent. If past is prologue, these bonds will be purchased primarily by Hynix's existing government controlled creditors. All these measures will permit Hynix to maintain and even expand its production and exports to the United States.

The nature of the subsidies programs covered in this investigation also give rise to a likelihood of future injury. The subsidy programs include government sponsored loans, the purchase by the Government of Korea of convertible bonds, the conversion of debt into equity and the writeoff of outstanding loans.

All these measures have freed up working capital, which has allowed the Korean companies to invest in new capital equipment and which in turn will result in substantial increases in production over the next year. In fact, many of these loans that are being provided by the Korean Government through government agencies like the Industrial Bank of Korea and the Korean Development Bank are actually termed industry facility investment loans.

How will this increased production affect the market for DRAM in the United States? Hynix's own public

data shows that it exports 94 percent of the semiconductors that it makes. Ninety-four percent. Hardly anything stays in the Korean market. Of this total, fully one-third comes to the United States. Thus, any increase in production from Hynix is going to flow to the U.S.

Second, as we noted in our petition, imports from Korea have increased significantly over the past several years, particularly after the lifting of the U.S. antidumping duty on Hynix. The rate of increase in imports has also accelerated since the year 2000 and is likely to increase again as Hynix ramps its newest Korean production facility at Chung Joo Fabay to full production capacity. As noted above, much of this production will end up coming to the United States, which is still the single largest market for DRAM in the world.

Third, increased Korean imports into the U.S. are even more likely if the European Union places provisional duties on Korean DRAM as a result of the antisubsidy investigation initiated there last June. Faced with higher import duties in Europe, it is highly likely that Korean producers would divert exports to the United States.

Fourth, Hynix and Samsung have announced that they will increase their production capacity in the very near future both in terms of new wafer starts and in terms of increased unit output through introduction of die shrinks.

Hynix, for example, has stated publicly that it will increase its bit output by 40 percent in the third quarter of 2002 and by another 20 percent in the fourth quarter of 2002. Micron, by comparison, increased its bit output by only 40 percent over its entire fiscal year 2002. This additional bit growth will exacerbate the supply situation in a market that is already completely saturated.

Finally, the statute directs the Commission to examine the extent to which imports are having an actual or potential negative impact on the existing development and production efforts of the domestic industry, including efforts to develop more advanced versions of the domestic like product.

Korean imports have already seriously affected Micron's ability to move quickly towards new generations of DRAM. As Mr. Appleton has noted, Micron has already had to reduce both planned capital spending and planned R&D expenditures, which can slow the development of new products. More details related to these issues was provided by Micron on page 22 of its confidential producer questionnaire response.

In sum, there are many factors at play that make the threat of further injury to the U.S. DRAM industry a very real possibility in the very near future.

Thank you. I would be happy to answer any

questions.

MR. KAPLAN: I think that concludes our presentation. We're certainly all available to answer any questions if it can be heard over the train which is outside there. We don't mind the train.

MR. FEATHERSTONE: If anybody hasn't seen it, we're getting our holiday model train display set up right outside our door.

Thank you, Mr. Kaplan and all the witnesses, for your testimony.

Ms. Messer?

MS. MESSER: Mary Messer, Office of Investigations. I have several issues that I'd like to give you a chance to comment on.

First, Mr. Kaplan, you mentioned, and I guess you also mentioned too, Ms. Byers, the lifting of the October, 2000, dumping order which Commerce revoked based on no domestic interest in the review that was being currently conducted here at the Commission and over there.

Can you comment on why there was no domestic interest not only by Micron, but perhaps by the other domestic producers? Also, can you comment on why there was not a companion dumping case filed with this countervailing duty case?

MR. APPLETON: Yes.

MR. KAPLAN: Go ahead.

MR. APPLETON: Yes. With respect to the first question about the case that was lifted, if you go back to that time period we were in 2000, and the market actually looked like it was okay. In fact, I think Commerce's own data was indicating that a continuation of that, for us to try to continue that, would not be successful. Independent of that, the market did look like it was a little better. The difference is that in the last two years we've had incredible change in market conditions from that time period, and it is far, far worse today than it was at that time.

The second question about with respect to why a corresponding dumping case was not filed in addition to the CVD. I will tell you, we contemplated the various avenues with which to try to address this. Obviously historically we've done dumping cases.

When we look at what's been occurring specifically in Korea with the bailouts of Hynix, I mean, it's incredible really what the subsidies have been. We felt that that was very much directed at what had been going on in the last 12 to 24 months with the subsidies to in particular Hynix, and we felt that a CVD was much more addressful in that case.

Clearly we've contemplated the dumping case as well, but we obviously wanted to make sure that we were

focused and effective on our own team in how we were trying to address this problem.

MS. MESSER: I'd like to go on to another issue that seemed to be of interest to the Commission several years back in the Taiwan case. I believe, Mr. Sadler, you addressed some pricing issues that were of interest to the Commission.

Also, another issue is an apparent shortage of U.S. capacity back then. You've spoken about oversupply in the world and the U.S. you say because of the Koreans. Is also the issue of shortage of U.S. capacity apparent now in this case? If so, if you were successful in this case and Korea was excluded from the domestic market here would you expect that the U.S. producers would be able to make up that shortfall, or would that go to third country markets?

MR. APPLETON: Can I address that? I mentioned during my comments that 30 minutes from this building we have a facility that's only being one-third utilized. It's constructed. It's there. We can bring on capacity there at any time. We constructed a fab in Utah that is a very large fab that has never had any equipment put in it. All it would simply need is to have equipment put in it, and the capacity can come on line.

We have chosen, specifically chosen, not to bring those on because of the severity of the market. In other

words, because of the inflow of the product from Korea, and you've got to remember they have 50 percent of the world market today. That is just a gigantic number. We would only hurt ourselves worse by trying to bring that capacity.

We can bring it on in a relatively short order of time. I don't have any question that if we were able to this issue that we would be able to, frankly, employ more people in the facilities that we have in the United States.

MS. MESSER: You say relatively short period of time. What are you talking? Weeks? Months?

MR. APPLETON: Equipment cycle times today if you want to order them, because that industry, of course, is pretty depressed as well, are on the order of four to six months.

I would note, by the way, that we have capacity today that you can bring on within the cycle time of a wafer fab, which is typically around 50 days, 45 to 50 days, because we're not even utilizing all of the capacity that we have that's currently operable.

MS. MESSER: Do you believe, given time to bring these plants up to speed, you would then be able to serve any demand here in the U.S. that we might have?

MR. APPLETON: There's absolutely no question whatsoever about that.

MS. MESSER: Obviously this case is difficult for

us, as well as you guys, in terms of data collection and compilation and analysis partly because of the classification of the materials. Customs has classified them on the basis of where the DRAM is assembled, and, of course, now Commerce has determined the scope to be where it is fabbed.

Because of that and the past and the current case, we are using questionnaire information for the imports. I would be interested in, and I'm sure that you probably have not had time to go through the volumes of importer questionnaires that we just dumped on you yesterday, but at some point, if you can't comment now based on the stuff that you've already been served, if you could comment at some point what you believe that our coverage is as far as good data that we've gotten.

Also, I mentioned Commerce's scope. Do you intend on or is there a possibility that you might try to convince Commerce to change their minds on the scope?

MR. KAPLAN: Certainly on the importer questionnaires you're absolutely correct. We have not gone through them all yet. I don't even think I've seen them, but we will obviously do that this weekend and try to address it as much as we can in the brief. It's an important point. We'll look a that.

I don't think we're going to try to change

Commerce's mind. That's a decision I think they make at the initiation. That will, from everything I see right now, certainly be the scope of the case.

MS. MESSER: Finally, in the past cases the Commission has taken an interest in the cyclical and seasonable nature of the industry. I believe back in the Taiwan case there were some new technologies that were being developed that were an issue.

Can you comment on whether or not there's anything there, new technologies right now? Is there a seasonality to the industry that we need to concentrate on?

MR. APPLETON: Well, it's an interesting question. If you look at the development of technology in the DRAM industry, and, as I mentioned before, I've now been in this industry 20 years when it was in its infancy to the state that it is at today. The actual development of the technology and the implementation of that technology has been on a pretty consistent basis year after year after year. That's allowed on average.

We haven't had huge fluctuations in the cost of producing a bit in 20 years. It's pretty much been within the 25 percent range per year, and that's been provided for by the development of new technology. That's a baseline, if you will, of how the technology evolves, and we don't see that curve changing any time in the near future.

When we look at our technology, frankly, we're trying to develop it somewhere in the neighborhood between maybe six to ten years out and looking where it might go. I can't speak for all companies because some companies do fall behind in technology, but in our particular case we have a very methodical path, and we're going to continue down that path.

That is really completely unrelated to the economics that occur in the industry other than a general price advantage that we can pass on to the consumer. What we have been my entire career primarily subjected to are not fluctuations in demand, but fluctuations in supply. We are driven by supply side economics instead of demand side economics.

If you go look at a chart of DRAM bit consumption, whether you want to do it per person or per year annually, it is a steady growth industry, very consistent. If you look at a chart of the selling price per bit of DRAM, it's a rollercoaster ride. That is supply side driven.

MS. MESSER: But are there any new products, new technologies out there, that would cause any aberrations in the data that we're analyzing now? Is there any new type of DRAM?

MR. APPLETON: Maybe I can address that in a slightly different way. The fundamental technology to build

a DRAM has been consistently moving down this chart, and when I say that I'm talking about smaller and smaller geometries.

MS. MESSER: Right, but are we talking any product?

MR. APPLETON: Yes. Let me come around to the question the other way.

MS. MESSER: Okay.

MR. APPLETON: If you talk about the types of products that are used, that this process used to make, they do change. They do change over time. We went from what we had called a fast page mode to extended data out to, you know, this synchronous DRAM to DDR. In fact, we currently have a situation where the DDR pricing has actually gone up in the last month and a half, as opposed to what we call synchronous DRAM pricing.

That's temporary. That is a temporary condition in the marketplace that exists because of a transition from one type of product to another. There is price differential between the two. The biggest market with synchronous DRAM is it's now converting to what we call double data rate, both of which we produce and both of which Samsung and Hynix produce.

There's a temporary aberration in the supply of the new device which will be quickly eliminated within a

quarter probably, and then you'll have price parody. Then it will be right back to the same situation that we were historically if you go beyond just the last six to eight weeks.

MS. MESSER: What about seasonality? Is that an issue?

MR. APPLETON: Seasonality in the DRAM business didn't used to be, but in recent years it has been an impact. Obviously the consumer buying season, given the penetration of the product in so many different products today, we are affected by the Christmas season to some degree, but, you know, if you look at long-term trends it may be a slight blip on the chart, but it's really nothing that's that significant in terms of an annualized basis.

MS. MESSER: Thank you. I guess the last thing I want to address are the closures of domestic companies. If you could briefly give me a time line for the period that we're looking at only, January 1999 to the present, and who closed, who came in. Do you have any information on that?

MR. APPLETON: Do you want to, Bonnie?

MR. LOVE: The companies we would be talking about would be Fujitsu, NEC, Toshiba and IBM.

With respect to Toshiba, they relinquished their ownership of the facility 30 minutes from here, and that was purchased by Micron. You know the state of that capacity at

this point.

As far as we are aware, NEC completely got out of fabrication here probably a year ago. That's my best guess. We don't have clear information. They never made a clear announcement as to when they ended their diffusion here. With respect to Fujitsu, I think that was prior, very early in the period of investigation.

IBM. Again, they don't make announcements about what they're doing with their DRAM production. We understand that they've been out of the business for quite a while, out of the commercial business.

I believe that covers the four that have left the market.

MR. APPLETON: Well, to be clear, Micron first got involved with Texas Instruments because the market at the time was just a disaster. I would point out, by the way, in all of our acquisitions that we've done there's been contraction during that time.

What Mr. Sadler just mentioned was that later in the time period after we concluded the deal, the transaction with TI, there was a facility that was jointly owed by Hitachi and TI of which we then ultimately acquired. That would have been the 1999-2000 time frame. That also shut down and now has nothing to do with DRAM anymore.

MS. BYERS: We'll provide you a time line in our

post-hearing brief.

MS. MESSER: And when you do, could you indicate? You've briefly touched on what happened to Hitachi, TI and Toshiba's capacity. Could you also discuss what happened to NEC, Fujitsu and IBM's capacity?

MS. BYERS: Sure.

MS. MESSER: Did it just drop off, or did someone else pick it up?

MS. BYERS: No. No. They've done other things with that capacity other than produce memory.

MR. APPLETON: I'm sorry to interrupt, Bonnie.

MS. BYERS: Go ahead.

MR. APPLETON: I think a significant point to keep in mind is that the capacity used for producing DRAM does become obsolete in a relatively short period of time. As a result, when IBM decided to quite manufacturing DRAM in any significance, because I think they probably still do some minor R&D for benefits and other applications they may have. That capacity by the time it comes off line and gets redeployed on something else, it essentially is obsolete at a very high rate.

The capacity will go away relatively quickly. In some cases, the capacity can be utilized to do other things. In some cases it won't be able to.

MS. MESSER: When you say relatively quickly, can

you give me an idea of time and cost it would take to keep up?

MR. APPLETON: Yes. Yes. This is a crazy business. We've done studies in the industry, and the average life of a piece of equipment is 3.7 years.

MS. MESSER: And to refit that to keep up with the new generations would cost about?

MR. APPLETON: If you look at our history in our industry, typically companies will spend approximately 20 to 25 percent on, you know, renewing the base every year, if you will. It's 20 to 25 percent of the revenues. That's fairly consistent.

That's why I think it's so noteworthy in our testimony that the Korean companies were spending in excess of 100 percent of revenues at times in adding capacity, which is well beyond what you would need to do to just keep your technology current.

MS. MESSER: And that's simply to just go to the next generation?

MR. APPLETON: It's to go to the next generation.

MS. MESSER: It's not to develop a new product, right?

MR. APPLETON: That's correct.

MS. MESSER: Okay.

MR. APPLETON: Yes. The 20 percent number is to

continue to move your technology forward.

MS. MESSER: Okay. I have no further questions.

MR. FEATHERSTONE: Ms. Alves?

MS. ALVES: Good morning. Mary Jane Alves from the General Counsel's Office. Thank you to each of the panelists. Your testimony this morning has already been tremendously helpful.

I'm going to follow up to some degree on some of the questions that my colleague, Mary Messer, has already asked you. To make it clear, I'm going to start off by saying that to the extent I'm not asking questions of all of the panels, feel free to address any of the questions that I talk about this afternoon with the afternoon panel in your post-conference brief. Likewise, to the extent that I don't raise the same questions this afternoon, Respondents are free to answer or respond to any of those questions in their post-conference briefs as well.

The first question I have is a relatively straightforward one for Mr. Esch, and that would be with respect to the captive production provision. Is there any reason why we should examine whether or not the captive production provision applies in these investigations?

MR. ESCH: We'll have to address that in our post-conference brief. I don't think there is very much here.

MS. ALVES: Thank you. That would be appreciated.

As you know, we do have a wealth of information on this industry based on our prior cases. One of the main points of inquiry that I'd like to focus on today in all of the panels are some of the conditions of competition that the Commission found particularly in the Taiwan investigation. To the extent that I don't address each of those conditions of competition, if you want to comment on some of them in your post-conference briefs as well.

One of the questions I had following along those lines is with respect to the life cycle. What are now and what have been since January of 1999 the standard products throughout the U.S. market?

MR. SADLER: By and large, the standard products in the U.S. market are modules, and the modules' density in the time period we're talking about would be primarily 128 megabytes and 256 megabytes, so those two would kind of be in the sweet spot of the market.

Those two modules can be constructed with 64 megabit DRAM and 128 megabit DRAM, a 256 megabit DRAM and, to a certain extent, although it's a relatively new product, a 512 megabit DRAM. There are four generations of chip densities that can by and large be utilized to construct those two different modules densities.

MS. ALVES: And in terms of the life cycles for those four particular chip density products that you've

identified, have you noticed any differences in terms of the duration, for example, of the 64s versus the 128s compared to prior generations?

MR. SADLER: My belief is that the life cycle has been condensing over the past few generations. In other words, the expected lifetime of a particular chip density is shorter today certainly than it was several generations ago. Off the top of my head, I don't have the specifics. We can provide that in post-conference briefs if it would be more helpful.

MS. ALVES: That might be more helpful.

MR. APPLETON: Just to add a comment to that, there is one factor that you also want to consider in the changing life cycles, and that is prior to the 128 MB DRAM device the cycle had jumped 4x every time it moved a generation. We moved to 2x jumps from the 128 on.

MS. ALVES: Okay. That's also another important consideration as well. Thank you.

I know there's been a lot of talk this morning about the life cycle, but do you have a sense? Can you pinpoint for me where exactly we are in terms of the life cycle for each of those four density products?

MR. SADLER: Sure. The 64 megabit chip primarily for cost per bit reasons, manufacturing cost per bit reasons, is in a phaseout mode, and for all intents and

purposes today it is not being utilized to construct those modules that I referenced earlier. It's primarily a 64 megabit chip is primarily being used in non-main memory applications such as graphics applications or gaming applications, a variety of consumer electronics and such.

The 128 megabit and the 256 megabit are truly interchangeable and, generally speaking, depending on the particular manufacturer, generally speaking the 128 megabit is in a ramp down mode, and the 256 megabit is in a ramp up mode, again solely for cost per megabit reasons. It's more efficient for us certainly to manufacture memory on a 256 megabit chip today than on a 128 megabit chip.

The 512 megabit chip that I referenced earlier is really in the very, very early stages of production ramp up.

MS. ALVES: And would that also be the case for all of the other producers throughout the world as well?

MR. SADLER: Generally speaking, we're all on the same technology road map and also, generally speaking, at the same general implementation stage.

MS. ALVES: If you could pinpoint a little more precisely in your post-conference briefs? I don't want to delve too closely to confidential information here, but if you could pinpoint for me exactly timing wise when you felt that the phaseouts really started to take place or the ramp ups started to take place for each of those that would be

helpful.

MR. APPLETON: Yes. We can give you exact data on that in the post-hearing brief.

MS. ALVES: Mary alluded to the five-year review that was terminated during the period of investigation. We've had a number of recent cases where there have been similar situations, and we frequently hear arguments from Respondents regarding what, if any, legal significance the existence of an Order during at least part of the period of investigation has. Would you care to comment on that?

MR. KAPLAN: Well, I'd say one thing which, of course, this is a different case from the prior case. It is a countervailing duty case related to subsidies, and we think that that raises very different issues from a situation where you had a refiled dumping case or something like that.

We'll consider that question in more detail and be happy to think about it and address it in a post-hearing brief.

MS. ALVES: There's been a lot of talk this morning about production increases and supply increases. Obviously there's more than one way to increase production. Can you give me a sense here, or perhaps if this is delving too closely to confidential information, where exactly have these production increases occurred?

I'm not only interested in the specific Korean producers, but also here domestically. To what extent have there been production increases, and how have these production increases primarily taken place?

MR. LOVE: I think as we noted earlier, the capacity in the form of wafer fabrication is, of course, the fundamental way you incrementally build capacity. We also noted that the Korean industry has brought on line four new fabrication facilities, so their wafer output capacity has expanded quite a bit.

That has not been the case in the United States. As a matter of fact, I believe that there's been a reduction, so that's a major difference in how output is being built. Now, obviously beyond wafer capacity you also have what are known as die shrinks, which is I would probably say the second largest means by which output is expanded. Some call it output expansion. Some say capacity. Obviously what die shrinks do is through process geometry allow you to produce more megabits per wafer.

You see, that is commingled with efforts to reduce costs, so it's a combination. It's really a cost driven expansion of output, but that is also a significant add on there. I think that both the U.S. and Korean and other producers in the world have expanded output from that source as well. That accounts for a significant portion of the

output.

Our point with respect to the Korean situation is that it doesn't matter whether you're talking about wafer fabrication capacity or die shrinks. The point is that neither would have been possible without the subsidy aid that we've been talking about.

MR. KAPLAN: We can try to give you as much as we can in terms of, you know, confidential submissions and the public data that's out there to try to give some kind of chart that would put that all together as well as we can. We'll be happy to do that.

MS. ALVES: Thank you. Could you talk to me a little bit about what the relative costs are, for example, for fabbing versus for casing or packaging?

MR. KAPLAN: Let me just say we did look at that issue, and I think some of that is in our confidential submission. Maybe you want to say what you feel comfortable going to that.

MR. APPLETON: Yes. I don't even need to talk about confidential data to give you a general sense of what happens. In the early life of a new generation of product, probably somewhere in the neighborhood of 80 or 90 percent is really embedded in the actual wafer fab device itself. In other words, the wafer, the silicon, accounts for the majority of the cost in the early stages.

As you go through a maturing curve where your yields rise and your productivity improves and so forth, then what ultimately happens is that your packaging and test costs come much closer to the cost of the die. In other words, once you're getting the maximum you can off of that wafer then at that point in time the other costs become a lot more significant.

It's really a continuum through the life cycle of that product, so it starts out at 80 or 90 percent, and ultimately then the die cost is somewhere in the neighborhood of 30 or 40 percent of the total cost. It used to be that assembly and test were then equal, about equal. They were all about a third, a third and a third. It turns out today because of the complexity of the devices that really fab and test become somewhat equal, but assembly is now a smaller number. They come much closer to each other in the later stages of the life of the product.

MS. ALVES: Okay. With respect to any arguments you might be making regarding how the Commission should be defining the domestic industry, should the Commission follow the same procedure that it did, for example, in the Taiwan investigation regarding how to define what is domestic production?

MR. ESCH: Yes, we believe it should. We can elaborate in our post-conference brief.

MS. ALVES: If in fact an Order on DRAMs from Korea is put in place, what is the likelihood that they're not just going to switch all of their fabbing operations here in the United States and do all of their casing in Korea, for example?

Do you have a sense of what the relative shares are of the fabbing that's being done in Korea versus the fabbing that's being done in the United States in order to supply the U.S. market?

MR. SADLER: I think Mr. Love commented earlier. If I misquote the numbers forgive me, but I believe he mentioned that between the two roughly 13 lines of production and 11 of the 13 are in Korea, so only two of the 13, which would be on the order of 15 percent, are in the United States.

MR. APPLETON: I think the ability to do that is not easy. I talked about the life cycle of the equipment, but the time to construct a facility is quite lengthy. If you look at the percentage of share that they have of the U.S. market in terms of the percentage of their output that goes here, they're really disproportionate to each other.

MR. KAPLAN: I might just add that it costs, as Mr. Appleton knows, several billion dollars to build a whole new fab facility, so it's not easy or inexpensive to do that. It's probably prohibitive without certain subsidy

practices for producers who are used to subsidies.

MS. ALVES: I think those are all the questions I have at this point.

MR. FEATHERSTONE: Mr. Giamalva?

MR. GIAMALVA: John Giamalva, Office of Economics. I just have a couple of quick questions.

To follow up on some previous questions in terms of introduction of new modes of DRAMs, the move to double data rate or to faster speeds of double data rate. Has there been any difference in the timing of new products by the different domestic producers, Micron and Infineon, versus the Korean producers? This is something you may have to address in the post-hearing or post-conference.

MR. SADLER: I think probably the transition that is of the most interest is the one that we are going through currently, which is the synchronous DRAM to DDR transition. Our observation is that in this particular transition Hynix has probably been a little bit further behind the rest of the industry. I say a little bit. We're talking weeks here, as opposed to quarters or years. This has resulted in the temporary price stabilization, actual price increase, in the DDR that Mr. Appleton mentioned earlier.

Our expectation, and, as a matter of fact, as recently as last week I believe industry stated publicly that they now are approaching 40 percent of their production

mix to the DDR mode. Our expectation is that this is going to result in decreasing prices in the very, very near future.

MR. GIAMALVA: Okay. Just one other question. In light of Commerce's decision to define subject product by country of fabrication, I wanted to ask Micron, and I'll ask the other participating parties, if that changes any of your responses to the questionnaire please elaborate now or in your post-conference brief or with revisions to the questionnaire.

MR. KAPLAN: Yes. I can't think offhand of changes in the questionnaire, but we'll certainly go through that and make sure that's done.

MR. GIAMALVA: Okay. That's all I have. Thank you.

MR. FEATHERSTONE: Mr. Baker?

MR. BAKER: (Non-verbal response.)

MR. FEATHERSTONE: Mr. Carr?

MR. CARR: Bob Carr, Office of Industries. A couple minutes ago there was a discussion about the expense of building a fabrication facility. How long would it take from a greenfield situation to actually start to finish have one up and running?

MALE VOICE: Three years.

MR. APPLETON: It depends on the size of the

facility, of course, and what it's going to be used for. If you're talking about DRAM, most schedules have been between a period of two and three years in order to do that.

MR. CARR: Okay. I think there was an estimate of several billion for I guess a competitive or a large scale DRAM facility now in terms of building on. What would the similar cost be for an assembly facility and also for a module manufacturing facility?

MR. APPLETON: An assembly facility I think would probably cost on the order of somewhere in the neighborhood of one-sixth the amount or one-seventh the amount, so it's much, much lower than a wafer fabrication facility.

I'm sorry. What was the second part of the question?

MR. GIAMALVA: Also, how much would a module --

MR. APPLETON: And a module facility actually would be even less than that because it's really already a package part. You're simply doing a surface mount to put it down onto a module, so its cost would probably be, you know, one-fifth again.

MR. GIAMALVA: Mr. Love, I had a question with regard to Exhibit No. 1. The exhibit shows an increase in world output that Hynix and Samsung accounted for from 2000 to 2002 growing from 37 to 40 percent, correct?

MR. LOVE: No. Those percents reflect the share

of total output --

MR. CARR: Right.

MR. LOVE: -- that they together account for in each year.

MR. CARR: All right. So they've essentially grabbed three more percentage points of total world output during the period?

MR. LOVE: That's correct, yes.

MR. CARR: At whose expense has that occurred? I see on the next page Micron accounted for 22 percent of world output in 2000. Do we have a similar figure for 2000?

MR. LOVE: Yes. I can provide that in the post-hearing brief. I can't remember the number offhand, but the Korean companies together have taken share relative to Micron and others.

MR. CARR: Okay.

MR. LOVE: Micron is included in the suppliers who have lost market share on this basis to the Korean companies.

MR. CARR: Okay. And the data that's provided for Hynix and Samsung and also on the other pages for Infineon and Micron is their world output from all their global facilities, not just Korean production in Korea and U.S. Micron production?

MR. LOVE: That is correct. Yes, it is. Yes, it

is.

MR. CARR: You were talking about -- If we're talking about the earlier transition from synchronous DRAM to double data rate DRAM, a couple of years ago, I guess several years ago now, when the Taiwan case was around, there was a discussion of RAM busses being the future technology, and that appears not to have occurred. I was wondering how important RAM Bus is in the current market and does it have any future, and to what degree is it interchangeable with the double data rate synchronous?

MR. SADLER: The RAM Bus DRAMs are direct RAM Bus DRAMs. The market today represents, in our estimation, less than five percent of the overall bit consumption of DRAM. If there is a DRAM product, it does not have commodity type characteristics. Certainly, there would be a RAM Bus DRAM. There's only one significant supplier of RAM Bus DRAM; that would be Samsung from Korea. And the future market for RAM Bus DRAM is certainly going to be less six months today, and a year from today, a year-and-a-half from today, certainly than it is today.

So, the market is in a declining stage. It never did reach the heights that some people had projected. And, from day one, it had always been an initial product, never exceeding more than five or six percent of the total market.

MR. CARR: There was an earlier discussion about

the historical jump in densities being on a 4X basis and then switching to 2X, when the 128 meg product came out. Is there a particular reason why we didn't jump from a 64 to 256? And is this 2X most likely to be the case for the near term?

MR. APPLETON: Yes. We believe that the 2X will be the case moving forward. And if you think back to the history of the consumption of the product and it primarily being in the computing space and primarily having such a shortage of memory in the box, if you will, it can always use the 4X increment. Ultimately, though, there became products, including in the computing space, that didn't have a need for that quantity of jump in memory. And so, essentially, we came up with devices that allowed them to go half increases, if you will, in the density. And it's pretty straight forward. As more and more products develop that utilize the memory that didn't need the 4X jump, then 2X would be sufficient to satisfy their growth needs.

MR. CARR: And, Mr. Sadler, based on your earlier testimony, I get the impression that Micron competes in the OEM market, sells to distributors, sell them spot basis and also on a contract basis. Does your company face competition on all those markets from the Korean imports?

MR. SADLER: Certainly, we do in the spot market and we, without question, do in the OEM market. We do a

very, very small percentage of our DRAM business through what we call the authorized distribution channel. I would estimate it could be in the neighborhood of three to four percent of our total business. And to the best of my knowledge, Hynix did not compete with us directly in that channel. Samsung does. I don't believe that Hynix has authorized distributors, such as we do, in the United States.

MR. CARR: Thank you. I guess that during the last investigation we had, computer equipment was identified as the largest consumer of DRAMs. Is that still the case? And what share of computer equipment, including peripherals, servers, workstations, notebooks, and the like, share of total consumption would they account for in the U.S.? And has that trend changed during the current investigation POI?

MR. SADLER: I would estimate the computer equipment today represents approximately 80 percent -- 80 to 90 percent of demand for DRAM chips. Generally speaking, it has not changed significantly, due to the tech bubble that can be attributed to the exposure of the Internet, really. In the early part of 2000, there was a temporary increase in the networking infrastructure equipment with respect to consumption of DRAM. That has moderated somewhat since then.

MR. CARR: The last question I have is, in the

U.S. market, do Korean and domestic DRAMs have a share -- do they have a similar mix of end users, in terms of who the U.S. companies sell to, computer equipment versus telecommunications equipment, versus consumer electronics and the like? Is it similar for U.S. products and Korean products?

MR. SADLER: Absolutely, it is. For all intensive purposes, there's no differentiation with respect to the application or the end user's application of the Korean or U.S. DRAM products.

MR. CARR: Okay, thank you. No more questions.

MR. FEATHERSTONE: Mr. Stewart?

(No verbal response.)

MR. FEATHERSTONE: Ms. Noreen?

MS. NOREEN: No questions.

MR. FEATHERSTONE: We're out of questions. Thank you, very much, for both your presentations and responses to the questions. We'll take a 10-minute break, to change sides. And if the respondent group could come forward during that time, we'll get started promptly. Thank you.

(Whereupon, a brief recess was taken.)

MR. FEATHERSTONE: Welcome, Mr. Porter. Please proceed at your convenience.

MR. PORTER: Thank you, Mr. Featherstone. We apologize for the slight delay. Being a high-technology

party, we want to do a high-technology presentation. But, I think the training of the lawyers need a little bit more work. Anyway, good morning, Mr. Featherstone. I am Daniel Porter of Willkie Farr & Gallagher. With my colleagues, Jim Durling and Miriam Bishop, we are here today on behalf of Hynix Semiconductor. Joining us today is Warren Connelly of Akin, Gump, representing Samsung.

Our presentation today will be as follows. After very brief introductory remarks by me, Ms. Bishop will discuss the issue of how to determine whether a DRAM sale is a sale of a domestically-produced product or a sale of a non-subject import. Following Ms. Bishop, Gary Swanson of Hynix Semiconductor America will give you a real world view, based on his experience in the trenches, on the most important conditions of competition in the DRAM market. Mr. Connelly will then talk about why Samsung does not belong in Micron's CVD case. After Mr. Connelly, Mr. Durling will demonstrate how the domestic industry is not suffering material injury. Finally, if time permits, I will offer some concluding thoughts.

Before I pass the baton, I want to note that, in case anyone does not know, late yesterday afternoon, the Commerce Department issued its notice of initiation that made crystal clear that petitioner's proposed scope definition has been rejected. In the considered

determination that examined arguments by all sides, the Commerce Department ruled that the scope of the subject merchandise does not include DRAMs for which the wafers were produced in the United States, but assembled in Korea. This means that all DRAMs produced by Hynix's U.S. manufacturing facility in Eugene, Oregon and all DRAMs produced by Samsung's U.S. manufacturing facility, Austin, Texas, are not subject merchandise. This point was conveniently ignored by petitioners this morning, but I urge you to remember it well.

What does this mean for today? It has two important meanings. First, it is important that after reasonably detailed examination of the issue, including all the extra evidence submitted by Micron, the Commerce Department has concluded that DRAM assembly operations are not sufficient to change the country origin of the wafer. We believe that this finding by the Commerce Department deserves serious consideration by the Commission, as it analyzes whether a particular case DRAM should be considered a domestic product or a non-subject import.

Second, the Commerce Department's determination on the scope of the subject merchandise means that every single statistic that you've heard about the U.S. market today, actually including our own, is somewhat irrelevant and wrong, because a good portion of Hynix's U.S. production is

supplied by their U.S. facility and that is not considered subject merchandise. And, therefore, no injury can be attributed to those sales of wafers produced by the Hynix facility and cased in Korea.

Finally, Mr. Featherstone, please note that we, also, have here this morning, but who will not be making a firm presentation, Mr. D.G. Kim and Mr. Juseon Kim, both from Hynix's U.S. manufacturing facility in Eugene, Oregon, and both of whom are able to answer questions that you and your colleagues may have concerning the DRAM manufacturing process. And with that, I will ask Miriam Bishop to begin.

MS. BISHOP: Good morning. I'm here to talk about the domestic product and the domestic industry. I want to focus particularly on the issue in this case.

There is agreement. The ITC has looked at how to define domestic industry in semiconductor cases for more than 10 times over the last 20 years. It's not a new issue. And, in fact, there's no dispute in this proceeding on how one should define the like product. We all agree that the like product constitutes all DRAMs, finished, unfinished, assembled, unassembled, including memory modules. In fact, other than the related party issue, there's no dispute regarding what facilities should be included in the domestic industry, because it's our understanding that there are no longer any independent assemblers in the U.S. market.

Therefore, all facilities of all U.S. producers will be included in the domestic industry. No one is arguing about this, in this proceeding.

The issue in this case is really how we treat -- how we define what constitutes a domestic product for purposes of evaluating production, sales, and import trends. As you know, DRAMs are a global business. They can be manufactured anywhere in the world, assembled anywhere in the world, and sold anywhere in the world with relative ease, because it's relatively easy to transport and they're very small.

We estimate that there are nine possible scenarios in this case involving DRAM production and assembly, only one of which is troubling. In ITC's world, the U.S. market is divided up into three groups: imports, domestic products, and non-subject imports. In past cases, DRAMs have been defined primarily based on where wafer fabrication has occurred. The only exception has been how the Commission has treated DRAM fabricated in third countries and assembled in the United States.

Just to give you some quick examples. Domestic product: wafer fabricated in the United States, assembled in the United States; easy. Domestic product wafer fabricated in the United States, but assembled in third countries has always been treated as a domestic product.

Similarly, here and in all previous cases, where the wafer was fabricated in the United States, but assembled in a subject country, it was considered domestic product.

A similar result was subject imports: wafer fabrication in Korea has controlled. If a wafer was fabricated in Korea, but assembled in a third country, it was considered a subject import. Wafer fabricated in the United States -- I'm sorry, if wafer was fabricated in Korea, but assembled in the United States, it was considered a subject import. With respect to third countries, we have wafer fabrication and assembly in third countries, it's a non-subject import. We have wafer fabrication in a third country, but assembled in Korea or another subject country, was always considered a non-subject import.

But the only case where this has not been applied, where wafer fabrication has not controlled, is where wafer was fabricated in a third country and assembled in the United States. We submit that this is not a consistent approach; that this uneven treatment of third-country imports versus domestic product and subject merchandise has really had the effect of masking the condition of the U.S. industry. You're not really looking at the relevant trends.

We believe you need to take a consistent approach in this case. Look at wafer fabrication, make wafer fabrication the deciding factor in how you define what

constitutes domestic products. This will benefit your analysis, because you will be able to see and judge more easily the condition of the domestic industry, what the trends are and what the trends of non-subject imports are.

In our view, assembly alone is really not sufficient. In DOC terms, it's confer origin. They already made that decision. It's not going to be considered a product of that country. But, in ITC parlance, assembly is not sufficient to convert an import of a fabricated wafer to a domestic product.

Value added to assembly and packaging is small, relative to fabrication. When they were here, the domestic industry even said that it was minor relative to the fabrication process.

Capital investment required is small. It's a small fraction of that required for fabrication.

Assembly operations can be established with relative ease, compared to fabrication, and in many different locations. And, in fact, often, they've been established in developing countries, to take advantage of low labor rates.

And, in fact, the Commission has agreed that assembly is not sufficient to change the status of merchandise, with respect to U.S. products or other third-country products. It has only changed -- considered

assembly to be sufficient, change the status of third-country imports imported into the United States and assembled in the United States.

If the ITC changes the approach in this case, it will be in conformance with the Department of Commerce's approach, as well as other international standards. Japan, European Union, and Korea all determine origin of their product based on wafer fabrication, not assembly. And, in fact, the United States, in the WTO Rules of Origin negotiations have opposed using fabrication to determine origin, as a general rule.

I just wanted to show you briefly what the fabrication process involves. There are the four different steps, including die sorting. Assembly has other steps. Step is not the right word. There are stages. There are large stages. But, based on our estimation, the cost of fabrication is more than 85 percent, whereas the cost of assembly is only 15 percent.

Capital investment to put in the fabrication plant is about $2.5 billion today versus about $300 million for assembly.

The value of equipment, we just talked about that.

There are, also, other factors, as well, that indicate that fabrication is really the key here. Research and development costs, 93 percent of those costs are

represented by fabrication.

Clean room, the level of clean room required to do fabrication is class one. You need a class one cleaning room to fabricate. You only need a class 1,000 room to assemble the merchandise.

There are over 180 different operations, manufacturing operations, in the fabrication process; whereas, today, there is only about 10, with respect to assembly and testing.

With respect to material input, you need over 100 different types of material to fabricate the die. You only need 10 different types of material to assemble and test it.

Processing time, it takes 60 to 80 days to fabricate a die; whereas, it takes only seven to 14 days to assemble and test the die.

And, again, the relative value added is over 85 percent fabrication versus less than 15 percent, by our estimates, for wafer fabrication versus assembly.

To conclude, on this point, non-subject imports should not be treated as domestic product. If the wafer is fabricated in a third country, a case of DRAM sold in the United States should be treated as a non-subject import.

With respect to the related party issue. In our view, petitioners have it wrong. There is really no reason to exclude the U.S. operations of Hynix and Samsung in this

case. The circumstances are simply just not appropriate. The Hynix and Samsung U.S. facilities account for a substantial share of U.S. production, sales, and employment. And if you exclude this information, the industry trends would clearly be skewed. These companies, they do not benefit at all. Their U.S. operations do not benefit in the least from the alleged subsidies in this case. So, again, there's no reason to exclude them. Both companies have invested substantial amounts in their U.S. facilities and are committed to the U.S. market.

The petitioners, in this case, indicated that the parent company's primary interest is in producing DRAMs in Korea. But, that's not relevant here. The ITC needs to look at what the primary interest of the U.S. company. They have substantial investment here and they're not about to squander it and shift all of that back to Korea. They're committed to the U.S. market.

MR. SWANSON: Good morning. My name is Gary Swanson. I'm Senior Vice President of Sales at Hynix Semiconductor America. Hynix Semiconductor America is the U.S. headquarters and sales arm for all of our DRAM manufacturing facilities, those in Korea and our state-of-the-art facility in Eugene Oregon.

I came here today to give you an insider's view on how DRAMs are bought and sold in the U.S. market. I've been

selling DRAMs to the U.S. market for 17 years, first at Toshiba and the last eight years at Hynix Semiconductor.

I want to talk to you today what I believe are some of the important factors involving competition in the DRAM market. Probably the most significant one is the fact that the market for DRAM is worldwide. At Hynix Semiconductor America, we focus on our customer's worldwide requirements. We strategize and plan the total DRAM needs of our customers, in the matter where they want us to shift the product. Thus, my responsibility is not just for DRAMs consumed in the United States; but, also, for U.S. customers, who want DRAMs for worldwide consumption.

For example, one of our largest customers is IBM. Every quarter, IBM sends us a forecast of their needs of their 12 purchasing sites around the world. We negotiate with IBM about an appropriate price and then ensure that IBM receives the quantity of DRAMS that it needs, wherever the IBM manufacturing facility is located.

We, then, negotiate pricing. We do so for all of our customer's facilities worldwide. That is, as the chart you see here indicates, that the largest U.S. customers require a single worldwide price for their DRAM purchases, regardless of the country of destination of our shipment.

The reason for this is that transportation costs are negligible for DRAM products, because they are easy to

ship huge quantity in relatively small containers. Accordingly, the transportation costs are really never a concern in our business. Therefore, our large U.S. customers want to use and leverage their worldwide purchasing demand for all of their worldwide needs and, thus, they need a single worldwide price.

Again, you can see that we service our customer needs wherever they are located. A related interesting fact is that the recent worldwide DRAM needs of our U.S. customers have grown much more rapidly outside the U.S., as you can see. Very simply what this chart is trying to show you is that the largest U.S. customers are now moving much of their manufacturing offshore. And this chart tells the story. You can see that the transfer of manufacturing offshore by computer companies has been rather dramatic. Indeed, in less than 10 years, the ratio for IBM has been completely reversed.

Next, I want to share how prices are negotiated with the largest customers. While, of course, given the nature and that DRAMs are commodity product, in the real world, price is not the only thing. You need to understand that sales to our largest customers, what we call our strategic accounts, are pursuant to a long-term agreement.

Essentially, under a long-term agreement, the customer agrees to commit a certain share of their needs and

a supplier agrees to make capacity available for that need. The customer and supplier agree that the respective commitments are subject to supplier's performance in the areas of technology, quality, responsiveness, and price. Accordingly the price negotiations for orders take place under the umbrella of a long-term relationship, which includes many factors.

At the outset, I want to make clear that price negotiations only happen after suppliers obtain qualification at our strategic accounts and it's become a qualified supplier for a particular DRAM product. The actual price negotiations between customer and supplier generally happen every two weeks. However, the negotiation is not simply about who has the lowest price, because business is awarded to suppliers based on a number of factors.

Essentially, for all the negotiations, the customer evaluates technology, our product menu, quality record, delivery performance and price. The supplier is competing in all of these areas to win the business. Suppliers are always trying to differentiate themselves by adding value in each of these areas.

Similar on the supplier's side, the supplier must take into account a host of factors during the negotiations: the extent of the relationship of the customer; whether a

long-term agreement is in effect; the quantity that's being ordered; the particular type of DRAM products desired and availability -- that is the supplier's ability to meet delivery times that are requested by the customer; position of competitors of the customer; the breadth of qualifications; and trends in the spot market. I note that all these factors, some of which can change often, are part of the deliberative process, when negotiating with customers. In short, both customer and supplier, these are factors other than price that play an important part of negotiations with customers.

My final comment today is that I find the case a bit surreal. Micron complains that they have been materially injured, but the real world marketplace indicates otherwise. Over the past three years, Micron has been very aggressive and steadily gained market share in the U.S. They have capitalized very well on the relative strengths of financial stability, technology, and low-cost manufacturing. Just look at the chart, Micron has cleaned up in the U.S. market, not Hynix. Thank you.

MR. CONNELLY: Good morning. My name is Warren Connelly and I'm here on behalf of Samsung. I have really just two points to make today. First, Micron and Infineon know that Samsung didn't get any countervailing subsidies here, and we think the injury allegations ought to be

considered in light of this knowledge.

Second, Samsung's U.S. sales activities, which differ in significant respect from Hynix's activities, have not had the slightest adverse affect on the domestic industry.

The reason why Micron named Samsung as a respondent was to improve its chances of satisfying the Commission's preliminary injury test. It knows it can prevail only if the Commission aggregates the volume and alleged adverse affect of all Korean DRAM imports, not just those imported from Hynix's Korean facility.

But the Commission has ample staff approval authority to discount Micron's subsidy allegations pertaining to Samsung, and I'll explain why a little later. But the center stage for that explanation, I think we first need to put Samsung's operation, both globally and in the United States, in a bigger perspective.

First of all, no one disagrees that Samsung is the most efficient and the most profitable DRAM producer in the world. Moreover, it has never engaged in unfair trade in the United States or elsewhere, despite Micron's long history of scrutinizing every aspect of global memory trade.

Mr. Appleton very recently told analysts actually this September that Samsung is "clearly out in front of everybody," with respect to the staff its growing and

highest price DRAM chips, and that's the double data rate chip, which they testified about this morning.

One firm, Morgan Stanley, recently summed up its analysis, by stating that "Samsung Electronics is the strongest player in the DRAM market." Other analysts have repeatedly stated that Samsung is well positioned to weather the current downturn and they provide several important reasons for the conclusions.

First, Samsung has cutting edge products that the most important and largest customers want. For example, Samsung sells commercial quantities of RAM Bus DRAM, which give it a significant competitive advantage over Micron and Infineon and many other competitors. Cray, Inc., which was here several years ago in its own dumping case, announced last week that it is going to use Samsung's R-DRAM technology in its X1 super computer, which will be the world's largest super computer and most powerful.

Samsung is also a significant producer of graphics DRAMs and other highly profitable, non-commodity chips that the domestic industry's leaders does not produce or produces in limited quantity. Because Samsung has diversified its product line, its DRAM product line, into a much greater extent than its competition, it has reduced the effect of the business cycle.

Second, Samsung has continually invested billions

of dollars in technology, mainly out of internally-generated findings. It was the first DRAM producer in the world to have a significant portion of its production at a sub .15 micron level. This occurred by late 2001. According to one independent analysis, this gave it almost a six-month cost advantage over its competitors.

Samsung is, also, now converting to a 12-inch wafers. It generates 50 percent more die than eight-inch wafers. Micron, in contrast, has yet to adopt 12-inch wafers.

Third, Samsung has a long hard established reputation among DRAM buyers. They know that they can obtain the performance levels, the quality, and the reliability that they need. Independent analysts conclude that the value of the Samsung brand, combined with advanced technology and distinctive products, allows it to obtain a 10 to 20 percent price premium over its generic competition.

Samsung's primary customers are companies like Dell, IBM, Apple, Compaq, HP, and Sun Micro Systems, that purchase chips worldwide. These customers have the most demanding standards and the most need for leading edge technology.

These reasons and more that we'll provide in our post-conference brief explain why Samsung has been so successful in the U.S. market. There are no subsidies. But

even if they had been provided at some minimal level, they would not explain any aspect of Samsung's global success.

In Austin, Texas, moreover, Samsung has a very significant DRAM wafer fab facility, in which it has invested over a billion dollars. DRAM die from this plant that are assembled in Korea, the consumer product, are sold at the identical prices as devices made in Thailand and Korea. However, Micron has never explained why Samsung would engage in pricing tactics in the United States that would undermine the competitive viability of a very substantial domestic facility. In fact, this type of tactic would make no economic sense.

I want to turn now to Micron's petition. And let's see precisely what Micron had to say about the subsidies that Hynix and Samsung allegedly received, and usually arising from subsidized imports. Now, the first thing that we see is that Micron described in extraordinary detail the subsidies that Hynix allegedly received. In fact, its description takes over 80 pages of its petition and at the end of that 80 pages, we get a precise calculation of the benefits that Hynix received.

Now, what do you see with respect to Samsung? You see a grand total of two pages of Samsung specific subsidies and we see no calculation of the benefits. I submit to you, if my client really thought that subsidies had greatly

enhanced Samsung's ability to compete in the U.S., you would expect its petition and its questionnaire responses to focus heavily on Samsung and its activities. But the most notable fact about Micron's injury allegations is that they say a lot about Hynix, not Samsung, even though Samsung accounts for a much larger share of total Korean DRAM sales and market share in the United States.

For example, on page 140 of their petition, Micron cites a J.P. Morgan research report that talks about possibly aggressive pricing by Hynix, not Samsung. There's no question that Micron's counsel and its in-house staff continually review the enormous amount of publicly available reports and expert analyses concerning prices and price trends that deal in the marketplace, not to mention their own internal data and reports. And, yet, they have failed to submit any meaningful evidence concerning Samsung. I submit to you this is hardly surprising, since independent analysts continually say that Samsung, as I mentioned earlier, can earn a premium for its product, with its much greater product diversification.

Now, Micron's response, I'm sure in their post-conference brief to what I said this morning is going to be that the Commission has no discretion, at this stage of the investigation, to consider the levels of subsidies that Samsung has received and that you've got to accept the

allegations as written in the petition as true. But the Commission has ample authority to consider the other lack of evidence as to the effect of those subsidies upon Samsung's prices and its competitive behavior in the United States. These considerations are within your ability to consider the relevant conditions of competition and all economic factors that you think are relevant to your injury analysis.

Quite obviously, Micron has to contend its subsidies affect the manner in which Samsung operates in the United States. The ways in which Samsung operates, including the product and the volumes it sell, the customers it sells to, the prices it charges, and the current affect of subsidies on its behavior are relevant economic factors and conditions of competition.

Unless the Commissions discounts the significance of Samsung's imports, because of its superficial allegations in the petition, it would have to admit to injurious conduct by Samsung. It can then examine whether the Hynix volume, assuming that they are subsidized, could have caused material injury or a threat. And we're certainly hear more about that from Mr. Durling in a moment.

With respect to the threat criteria, I just want to make one point. We'll address the threat criteria in detail in our brief. You heard this morning that Samsung has expanded its capacity in Korea. But, this has to be

considered in light of the conditions of competition in the DRAM market.

The cost of the expansion is a business imperative. It is not an indicator of threat. Why? Because, as we heard this morning, the DRAM business is growing. Supply has to keep up with demand. And the proof of this, of course, is that Micron, itself, is increasing its capacity. It bought the plant in Manassas. It bought TI's global facility, its global wafer fab facility. So, they are expanding their own capacity, just like other world class producers, like Samsung.

In closing, it's very safe to say that Micron and Infineon will not be surprised from the Commerce Department, that Samsung has not received countervailing subsidies from the Korean Government. They know full well that the only benefits that Samsung has received, and these are minor benefits that are available to all Korean companies, not just semiconductor companies.

And why do they know this? And the reason is, because they have Samsung's submission to the European Commission. And the public version of that submission states that Samsung has not received any countervailable subsidies. Yet, they're going to drag Samsung and the Commerce Department through a very burdensome and expensive process, just so they can prolong this investigation and it

operates to put continuing pressure on Hynix to shut down.

If Micron brought this case solely with respect to Hynix subsidies, the only subject imports would be Hynix imports and the injury case would look far different and far weaker. The Commission has the authority to consider this point in its own analysis; and if it does, we submit to you, it would lead to negative determination. Thank you.

MR. DURLING: For the record, I'm James Durling of Willkie, Farr & Gallagher, and I'm going to discuss the issue of material injury in this investigation, and I'm going to do it substantially in the words of the domestic industry, themselves.

I think we all know that injury is in the central step core element and, in this case, there's not even a reasonable indication of material injury. We need only look at the domestic industry's own words, as displayed repeatedly in industry conferences, to realize this is not an industry that is suffering any injury. So what my presentation will do is take specific factors and summarize what Micron and Infineon have had to say about these factors, in their own words.

The critical importance for the Commission and the staff is two perspectives. First, this, as everyone knows, is a very cyclical industry, so one cannot look at any one year or any two years. This case isn't about a single point

in the cycle; it's about understanding the overall cycle for this industry.

Second, it's critical not to look at any one factor. This case is not about operating profits alone. What you heard this morning was mostly complaints about the level of operating profit. But, the staff requires the Commission to consider a much wider range of indicators of industry health.

And third, I think it's extremely useful to consider Micron's own definition of financial health and success. How does this industry, itself, define its health?

So, let's look at the words of Mr. Appleton. "We have a good past balance. We can keep investing. We have enough market share. We can focus on technology innovation. I think we are in as good a space as anybody." Or another recent quote from the Micron annual report, "measure of financial strength, past position, access to capital markets, minimal debt, leading edge manufacturer, resources to invest in technology." I find it interesting that all of these factors that Micron, itself, is pointing to, are, in fact, factors, which the staff requires the Commission to consider, as well.

But what happens if we apply this broader definition of success to the domestic DRAM industry? Products and output have been increasing. The industry

sells rapidly and Micron has emerged as a global leader in the industry. But, the U.S. market is the only market in the world where all four of the major DRAM companies, Micron, Infineon, Samsung, and Hynix, all have major production operations. And, in fact, all of these companies are global producers.

Micron, itself, produces in the United States and Italy, Japan, Singapore. By various measures, the domestic industry has been increasing its output to meet the ever increasing demand for memory. You heard about that this morning. And these are recent quotes from Mr. Sadler, although I think you heard plenty about expanding output this morning.

Not surprisingly, systems have also been increasing, with the increase of outputs, service, the volume of sales. Again, Mr. Sadler described the increase in Micron's levels. Sales volume may have declined, but that's really just a manifestation of the global price trend. We'll come back to prices a bit later. So, U.S. production and sales activities have all been increasing. So, we have a first piece of our picture.

What about market share? You heard a lot about increases this morning. Micron, itself, has increased its market share, both globally and in the U.S. market. Since 1994, Micron's share of the global DRAM market increased

dramatically, according to recent testimony at the Camdex conference. Infineon's share of the global DRAM market has also increased from the Infineon Roadshow.

So, they both, also, increased their market share in the Americas. What are the numbers? There is the worldwide number, according to Data Quest, showing significant increases by Micron and Infineon and showing a significant decrease by Hynix, the beneficiary of all the alleged Korean Government activity. There are the numbers for the Americas, the same basic trend.

So what do these numbers tell us? Globally, Micron and Infineon have together gained 7.1 points of market share. Hynix now, 4.8 points of market share. Korea, overall, including Hynix and Samsung, gained only 1.5 points of market share. Who is winning and who is losing in this industry? And the same trends in the U.S. market, except here, the gain by Micron and Infineon is even greater than on a global basis.

Is this evidence of injury from the domestic industry? I don't think so. And what's remarkable, in light of Commerce's decision yesterday, these numbers are an exaggeration, because they should craft out all of the U.S.-based production -- They don't. These are the market share trends, if you treat -- as considered Korean production, and they're not.

So, let's put the market share in perspective. Micron, itself, likes to boast about its increasing levels of penetration with key customers, as customers recognize Micron's trend. Micron likes to boast about it being the worldwide leader, in terms of megabyte market share. As if these are the relevant measures: what is the brand market share; what has been the penetration of key customers. And by any measure, the domestic industry has been doing just fine. In fact, they've been thriving over the period of investigation.

The petition tries to create the illusion of declining market share by manipulating the country of origin. So, we have another piece of our picture.

Profit, you heard a lot about profit earlier this morning. It's improper to try to evaluate the DRAM industry based on any narrow snapshot of profitability. Since it is such a cyclical industry, you have to look at profits over the full cycle, up and down, and look at it over time. But this an area where it's the most important to apply Micron's own broader standard of financial success, to understand what Micron sees is the relationship of operating profits to other measures of financial health.

If Micron does not stress operating profits to the public and to the investment community, then neither should the Commission stress operating profits over the other

statutory factors of material injury. This is an industry that is purporting improving profits; losses during the most recent period, but the situation is getting better. Micron recently boasted to investors that its growth margin has been improving; so has Infineon, also announcing improvements in recent growth margins. Both companies, also, boast about extremely low costs, which leads them to achieve higher levels of profit over the full business cycle.

So, these are slides from a Micron Roadshow, from July of this year, showing just how much progress they had in the recent period, as the market goes through the bottom of the cycle and begins moving up. So, they've reported, at least here in the third quarter, which just came out, showing improving growth margins relative to the cost before that.

There's another Micron slide, talking about how its technology leadership leads to extremely low cost position, which well positions them for future profitability. And so does Infineon. There's a November Infineon Roadshow, where, again, they talk about their investment in new fabs. Their ability to achieve huge cost advantages over their rivals.

Here is a graph of Micron's cyclical operating profit. And I think it's important to note the extreme ups

and downs of Micron's operating profit. Micron, itself, recognizes these extreme cycles. These are the slides from a Micron presentation at Camdex just a few days ago, where they used industry publications to describe the extreme cycles. There are ups and downs in this industry and it's always been that way.

So when we're trying to assess profit, as a staff report factor, where does that leave us? First, the DRAM industry, itself, largely discounts the importance of operating profits relative to other measures of financial success. It's a boom, bust cycle, and they know that it's more important to look at other measures.

Second, this view of the industry, in fact, reflects the economics of the industry. In a boom, bust industry, you need to look at more than just operating profits. But, importantly, profits during the boom period more than covers the losses during the bust period.

Another important point is to recognize the volatility. The booms and the busts are both going to higher extremes. The bust, boom period demonstrates two extremes, both in the extreme of profitability and in the extreme of loss for this industry.

But, here, I think is the critical point about the past three years. For all of the losses in the past two fiscal years, Micron made more money over the 2000 to 2002

fiscal period, than it did over the 1997 to 1999 period. For the period of time where the alleged subsidies were not taking place, long before any of these alleged Korean Government activities, they were making less money than they are making now at the bottom of the cycle, in the midst of all of this alleged Korean Government activity. So, I think, from the broader perspective, industry profits are not as doom and gloom, as you might have believed from the morning presentation.

Another staff report factor: productivity. There is a slide from Micron 2001 year end, where they describe their incredible improving efficiency, a straight line up. So, we have another piece of our picture.

Capacity, you heard a lot about capacity this morning. Both Micron and Infineon have increased capacity over the period. They need to. That's the nature of the market. Demand is increasing. Everyone is increasing capacity to meet that demand. In fact, by the end of 2002, Micron's capacity will be substantially .13 microns, and this will substantially increase capacity and reduce costs. Same for Infineon. They've been expanding their capacity and expanding their die shrinks to increase more capacity.

But, there's a link between the capacity and the cylicality. It's just based on economics of this industry. You heard this essential story this morning, that because

the capacity comes on in large discrete lumps and because the fabs tend to be run full out, amortize the high costs, you have capacity coming on really lumpy. And you have a series of time in the DRAM cycle, where the increase in capacity, the increase in supply has exceeded the rate of growth of demand.

But, this is not unique to the most recent period. This is not unique to any alleged Korean Government activity. This is a fact of life for the DRAM industry. The capacity affects the prices. In fact, the downward cycle in DRAM prices is largely a result of the bust that comes after a period of supply exceeding demand. Lots of new capacity comes on line, creates a period of imbalance, which is then corrected as it works through the next stage in the cycle. In fact, it's well known in the industry that capacity utilization is a strong predictor of average selling prices.

So, we have significant facts of the increases in die shrinks, both before and during the period. But, it's important to note that much of this increase has been by Micron, by Infineon, by the Taiwanese, and not by Hynix.

Here's a table, which shows based on third-party databases, the amount of capacity that's been added. This is labeled in terms of change in eight-inch wafer equivalent starts per month. And you can see that Hynix has actually

been starting fewer wafers, substantially fewer wafers, and that the growth has been Infineon, Micron, the Taiwanese. You have another piece of our picture.

Prices go up and down in this industry. So, in this industry, it doesn't make any sense to look at simple price trends. It has to be considered in the context of the DRAM cycle. And you have to acknowledge that, in this industry, there's extreme volatilities. That's why you correct monthly prices.

But, it's also important to realize that the price trends are global trends. There's virtually no variation across the graphic markets. Micron knows prices are volatile. This is a slide from their London Roadshow, where their plotting DRAM average selling prices. And you can see the dramatic increase in volatility toward the end of the period.

Prices are also extremely consistent on a global basis. Again, using third-party data, this is plotting for a 128 meg CC133 synchronous DRAM, kind of a bread and butter chip for this industry. It's virtually identical prices. They go up and they go down, but they're going up and down by the same amount in every market in the world. So, you have another piece of our picture.

Cost flow, this is a critically important issue for this industry. Both Micron and Infineon have very

strong cost flow. Steve Appleton, talking to a shareholder, boasting about the $1.2 billion in costs and marketable securities, as they just finished their fiscal year. Infineon, talking about a strong cost flow of two billion Euros, as it just finishes its fiscal year.

But more importantly, this is how the DRAM industry measures its success. Success is generating cost flow to fund new investments and new R&D, and it's more important than short-term operating profits. Here's a graph based on Micron's quarterly financial data, showing net costs provided by operation. And, of course, you see the totality that's inherent in this industry. Though it's important, the trend line shows that over time, even with the increased volatility, Micron, on average, has been generating more and more costs out of its operations. This, I think, is more important than operating profits.

Inventories has been low in the recent period. Of course, they rise and fall, in response to demand, and so there's a lot of variation. But, in the most recent statements, Micron is bragging about its very low inventory, low compared to where they were a year ago. Another piece of our picture.

Employment and wages. You heard this morning how Micron has maintained employment. For as much as it has maintained employment, Micron has continually increased its

U.S.-based employment during this period. There was an increase in employment. Total wages paid has also increased. And they've been increasing this U.S.-based employment even as they stand on a global basis. Here, based on what Micron pay, is the total head count employees in the United States over this relevant period, a steady increase. Another piece of our picture.

Ability to raise capital Micron has aggressively bragged about its financial strength and measured it many different ways: the strongest balance sheet in the industry; low debt to equity ratio; positioning itself as the market leader with ready access to the capital markets. This is another key measure of success for this industry. Raising capital allows for continual investment and spending on R&D.

In fact, from Micron annual reports, we can see that based on a range of financial measures, current ratio of debt to equity, Micron is actually better off now than it has been at the bottom of prior industry troughs. Look at the current ratio, which has improved from about two to almost three. Look at the drop in the debt relative to the equity. This is a company, that after coming through the two worst years in DRAM history, is better positioned than it has ever been in its corporate history. That is not a sign of material injury.

This industry is growing. The domestic industry has grown with the global market. It's better positioned now than it has ever been before. Micron has gone from being a small player, to being a global industry leader.

And as I mentioned before, the U.S. is the only market where all the DRAM companies are operating and expanding, with new facilities and with major upgrades in the U.S. industry. The major investment that Hynix has been making has been in upgrading its fab in Eugene, Oregon, putting in new equipment, allowing the Oregon-based production to have state-of-the-art manufacturing equipment.

The industry has been growing on a worldwide basis and worldwide DRAM revenue has also been increasing. This is not an industry in decline, where people are scrambling for small bits and pieces. This is an industry that has been growing. Another piece of the picture.

Investment has been increasing. The domestic industry has a very strong cash flow liquidity that can completely fund new investment, strong balance sheets and no trouble raising new capital. The capital markets readily recognize the upside potential in this industry.

Micron has consistently invested, even in the downturn. And, in fact, Micron's investment very widely has been counter cyclical, where they aggressively invest in the down cycle, they acquire assets in the down cycle, to

exploit them during the next up cycle.

Here is a slide from Micron's London Roadshow, describing its cash and liquid investments over the period that the Commission is considering now, and you can see the very strong and improving position. Here is Micron comparing itself to its rivals late in the fiscal year 2000, showing that it viewed its financial strength based on assets to liability as being substantially better than anyone else in the industry. Again, this isn't our analysis. This is Micron's own analysis of its own relative position.

Capital expenditures, notice the steady upward trend and notice the ability of Micron to invest $1.7 billion capital expenditures in 2001, which was the worst year in industry history.

Infineon feels the same way, very solid financial position. They have more than doubled their cash position. We've just gone through the worst trough in DRAM history and the domestic companies, Micron and Infineon, are strengthening their financial position. Again, consistent capital spending from Micron. And Micron increased its capital spending, while the DRAM industry, as a whole, was actually trending downward. Another piece of our picture.

R&D spending, also, very strong and increasing. Domestic industry reports consistently increasing R&D.

Micron brags about its leadership in the area of intellectual property, expanding new facilities. The dollars spent on R&D have been steadily increasing through ups and downs in the business cycle, both dollars spent and new facilities being built. And, in fact, Micron's R&D spending has been above its historical trend line. Using Micron's annual reports, we show here the trend over the past decade and their recent spending has been ahead of the trend line.

So what does all this financial data mean for the Commission? Strong cash flow. The domestic industry is completely able to fund investments in R&D largely out of ongoing operations.

Second, strong balance sheets. They can access the capital markets whenever they need to and they can fund investments in R&D, even if there's a temporary downturn. Strong capital spending, the domestic industry is extremely well positioned to benefit enormously during the next upturn in the market. Strong R&D spending, again, extremely well positions for long-term commercial success.

Here is another slide from the Micron Roadshow, where they're describing in overall terms their financial strength. And they recap a lot of the themes that I've been discussing with you today: the amount of cash, the low-cost producer status, the debt to equity ratio. But, here, I

think is really the essence of what I'm trying to convey to you: proven ability to weather downturns; financial position in current cycle trough, stronger than any previous cycle.

In all honesty, I can't come up with a better way to summarize respondent's case for why this industry is not suffering material injury. And there's not even a reasonable indication of material injury, because these are not my words, these are Micron's words. This is probably the most revealing statement you'll hear all of today and it doesn't sound like material injury.

So the overall assessment Steve Appleton has given to his shareholders is, we're the strongest player in the arena: advanced technology, cost cutting, optimized spending. Micron is well position to compete in this difficult environment. I would agree, success measured by financial strength, technology leadership, manufacturing efficiency. Micron has proven many times that it has what it takes not only to survive, but also to be a leader in this competitive environment. I agree. But, these statements are totally inconsistent with what you've heard given this morning as testimony about an industry on the rope, in need of assistance from the Commission.

So, in perspective, I think this industry looks fine. Put all of the pieces to the picture together and

this industry is doing just fine.

So what does all this mean? We know this case is preliminary and we know it's a low standard of proof. But, this case is different, because rarely has a domestic industry said so much, in so much detail, about its overall condition and strength.

Micron and Infineon are predominantly DRAM companies. So when you look at these quotes by Micron and Infineon, they are largely describing their DRAM businesses. This isn't a multi-product conglomerate. This isn't a general statement by Samsung about Samsung as a global corporate entity with a dozen different product lines. These are statements by DRAM companies about their DRAM businesses.

And they simply can't have it both ways. We assumed that the companies were being fair and truthful when they described their business and their business prospects to the investment community. We take them at their word. So, what does that mean about their statements here today?

So what should the Commission do? Consider the record carefully. In our view, this case deserves attention now, not later. Test the record carefully. The wealth of information that these companies have already provided to the public and to the investment community provides the perfect benchmark for testing what they're telling the

Commission now. And recognize that this case should be terminated now. The facts require termination now. And make this case, both the record assembled and its determination made, a fitting tribute for Lynn Featherstone, as he begins to approach the end of his time at the Commission. Thank you.

MR. PORTER: Mr. Featherstone, that concludes our presentation.

MR. FEATHERSTONE: Thank you, Mr. Durling, and thank you all for your testimony. Just for everyone's information, Mr. Porter is going to provide copies of at least the data slides for both the Commission record and for parties. And as soon as you can get those, we appreciate that.

MR. PORTER: We were going to --

MR. KAPLAN: (No microphone.)

MR. FEATHERSTONE: I understand --

MR. PORTER: Mr. Featherstone, after what's discussed with Commission staff and my understanding of the regulations is what is deemed provided for the record today is our testimony and our testimony alone. We'll be happy to provide the full presentation in our post-conference brief.

MR. FEATHERSTONE: I understand that the testimony is available tomorrow in the transcript. But if it was difficult to read, even for people in the room, a number of

those slides, we would like you to provide the tabular data, at least, as quickly as possible, so that parties can comment in their post-conference brief.

MR. KAPLAN: (No microphone.)

MR. PORTER: Mr. Featherstone, Mr. Kaplan is incorrectly citing the regulation. The regulation says, if you want to offer slides for the record, it's a five slide limit. We're not offering these slides now for the record. We are offering our testimony for the record.

MR. FEATHERSTONE: We're going to move on with questioning and we'll leave it at the post-conference briefs, unless further discussion here creates a problem with that. I'll be consulting with Ms. Hause here. Ms. Messer?

MS. MESSER: Thank you for your testimony this morning. I'm Mary Messer, Office of Investigations.

Mr. Durling, you spoke at great length concerning a growing industry and you've focused primarily on Micron and Infineon, to put together your pretty picture. However, there's a few pieces of that picture that you might be missing, that I want you maybe to comment on now, if you could, and it's those companies that have gone out of business during the period of investigation. How does that look, as far as the growing industry, when you consider those that have retreated?

MR. DURLING: I can offer some initial comments now and then we can, of course, elaborate in our post-conference submission.

I think there are two important things to realize about the exit from the industry. The first is that for many of the companies, the exit from the industry, particularly the Japanese companies, was simply a corporate decision, that they were not prepared to live with the volatility of the DRAM business. Every company has to make its own decision about how to optimize its own financial performance. And many of the Japanese semiconductor companies have concluded that they are better off devoting their corporate resources to other types of semiconductors.

So what has this meant? For these companies, some of them have shut down DRAM operations and converted those fabs in the U.S. to producing other types of semiconductors. That's fine. That's just a redeployment of assets from one use, to a higher value use. For some of the other companies, they wanted to reduce their exposure to DRAM semiconductors, so they sold those assets to other companies. In fact, that's been a hallmark of Micron's corporate strategy, to take advantage of downturns, to acquire assets at very, very attractive prices, and then to redeploy those assets when the market turns around.

And so, we believe that the exit from the industry

is actually a sign of strength, not a sign of weakness. The exit from the industry has made it possible for the other companies, in particular, Micron and Infineon, to expand their scale, to expand their operations, and to better position themselves to be long-term survivors and long-term success stories in the DRAM business.

MS. MESSER: Of course, we'll have some of the data. We may not have, at this stage, all of producer's trade data, at least, that have gone out of business. Are you, then, saying that if we were to have all of this data, that the trends would still show growing?

MR. DURLING: No. What I'm saying that to really understand the importance of exit in this industry, you have to step back and go beyond just tabulating the production figures out of these U.S. facilities and adding the numbers together and seeing whether it's an up trend or a down trend. What I'm really saying is that you need to understand the motivation of these decisions by the companies and essentially the redeployment of assets to other uses. But, we certainly can work to assemble whatever publicly available information is available, to make sure that you have a record of which former Japanese DRAM facilities have now been converted to other uses. And, in fact, as you heard this morning, for some of the facilities, the people now in possession of that information are, in

fact, the domestic industry.

So, we will do our best to make the record as complete as possible. If the domestic industry does the same, then you should be okay.

MS. MESSER: And it's my understanding that NEC, Fujitsu, and IBM that we're concentrating on, as far as -- and it appears that TI and Toshiba have been taken over; that capacity, at least, has been.

MR. DURLING: Yes. We have the good fortune, in this case, that there really is a surprising amount of publicly available information. And so, basic information about those fabs and what they were producing and how much they were producing, that, again, it won't be perfect, but getting a pretty good general idea of the scale of those operations is something that we can do from public data. And we will do our best to collect that for you.

MS. MESSER: Thank you, very much. That will be very helpful.

Ms. Bishop, I want to make sure I understood something you said very early on in your testimony. I believe you said, and correct me if I'm wrong, there are no longer any independent assemblers in the United States.

MS. BISHOP: That's our understanding right now.

MS. MESSER: Assembling the case to DRAMs --

MS. BISHOP: Correct.

MS. MESSER: -- independently. Were there and how long ago did they exit?

MS. BISHOP: They were clearly in the previous Commission cases.

MS. MESSER: What about the period that we're looking at now?

MS. BISHOP: I don't know. We'll have to explore that information for you.

MS. MESSER: Okay, thank you. And just one other issue, if you wouldn't mind commenting on. I understand you may want to also do this in your post-conference brief, since the APO release was only yesterday. But, I'd also like to give you a chance to comment on what kind of coverage you believe that we have from questionnaires that are usable, from a data perspective.

MR. PORTER: I think you'll find you have very good coverage. I mean, no one disagrees. There are four major players in the industry and everyone has given their questionnaire responses. So, I don't think anyone -- it's not a case, in which there are doubts about the coverage of the data. I think it's as close to complete that you can get.

MS. MESSER: That's four major players domestically. I'm also talking about from the import side and --

MR. PORTER: We have four major players globally.

MS. MESSER: Globally, okay.

MR. PORTER: I think the four major players, I think publicly, data -- I mean, the four together is, what, over 80 percent of global output. So, I don't think there's really an issue at all in this case about coverage.

MS. MESSER: Okay. That's all I have. Thanks.

MR. FEATHERSTONE: Ms. Alves?

MS. ALVES: Good morning. Mary Jane Alves, again, from the General Counsel's Office. If I could start with Ms. Bishop. In order to put a factual side to some of the arguments that you began with this morning, could you tell me specifically what imports are at issue, in terms of the Commission's definition of what is domestic production or what is a non-subject import versus what is a subject import? Who are the exact players, whose materials are at issue? And be as specific as you possibly can, with respect to which companies identities are at issue.

MS. BISHOP: I think we have to look at the specifics, at the questionnaire responses, to give you precise information about what countries -- imports from what countries, how they should be treated. But, as a general matter, imports from Korea of wafer fabbed in the United States are treated and had always been treated as domestic products. Imports of DRAMs that are assembled in

Korea, that are fabbed in third countries, have always been treated as non-subject imports. And the Department of Commerce clarified that in its scope determination the other day, that wafer fabrication is determinative, in terms of determining what subject imports are.

So, subject imports are those DRAMs that are fabbed and assembled in Korea, plus those DRAMs that are fabricated in Korea, but assembled in third countries and then imported into the United States. And I don't believe that it happens anymore, but it would also include DRAMs that are fabricated in Korea, but assembled in the United States. Those would be considered, if it occurred. I'm not sure that that would happen.

MR. PORTER: If I could, I believe the Commission's questionnaire asked very good, intelligent questions on this point, and it had at least structured the questionnaires to request from all the major producers in the world where the wafer was fabricated and where the assembly was done. I mean, if you go through the questionnaire and if you go through the responses, you'll see multiple, multiple pages. So, you have the data of who is doing what, where.

And all we're saying, as a conceptual and legal matter, which pot do you put it in. If Micron makes a wafer here and has it assembled in one of its facilities overseas,

what do you do with it? If Micron makes a wafer overseas and has it assembled here, what do you do with it? That's what the legal and conceptual issue we were trying to address with Ms. Bishop's statement.

MS. ALVES: I guess what I'm trying to get at is, factually, how significant is this issue for us. That may require the questionnaire responses, in order to give us a better sense of that. If you can put that in perspective factually? Obviously, we have the data, but if you're looking at it --

MR. PORTER: Absolutely.

MS. ALVES: -- factually, as well, and you might tell us what your observations of the significance of that point are.

MR. PORTER: Of course, we will do that. But, then, we're both working from the same data set, because you guys did a good job on the questionnaire and collected the data that you need to do to answer that question.

MS. ALVES: Mr. Connelly, with respect to your presentation this morning, I just want to be clear what it is that you believe that the Commission should be doing, and I want to make sure that I didn't misunderstand what you're suggesting the Commission should do. Are you suggesting that the Commission should separately be looking at the imports from Samsung, as opposed to the subject imports from

Hynix?

MR. CONNELLY: Yes and no. Here's the yes part. Imports have to, of course, be considered collectively, in the sense, the traditional sense, that the Commission looks at import volumes and U.S. shipments of import volumes, et cetera, the weight average prices. On the other hand, the Commission has the discretion to consider differences in the way companies may or may not operate in the United States. And all I was trying to suggest this morning is that there are very distinct differences that will and should affect the Commission's analysis here.

For example, I'm now talking about the questionnaire information. Each company has been required to identify the commodity DRAMs it sells in the United States, RAM Bus DRAMs it sells in the United States, and specialized or non-commodity DRAMs. There is a very different indication for both Hynix and Samsung and the two other domestic producers, with respect to that breakdown. You cannot let that difference be obscured by simply lumping everything into this notion that Micron was suggesting, that DRAMs are a commodity. That is emphatically not true. Yes, there are commodity elements to the market, but there are specialized elements to the market. And that was the main point I was trying to make this morning.

MS. ALVES: I thought it was -- I just wanted to

be very clear there. I don't want there to be a question later and I don't want to get a surprise in the post-conference briefs. As you know, we're tight on time. It is obviously a preliminary phase investigation and with the holiday coming in, as well. Anything that we can do to facilitate information exchange, at this point, is certainly very helpful.

With respect to your presentations regarding the issue of defining the domestic industry. If we could back up a step and if you could tell me whether or not, in fact, individually, Mr. Connelly and Mr. Porter, whether or not you, in fact, concede that your clients are, by definition, related parties and what is the basis for that?

MR. CONNELLY: We concede.

MR. PORTER: We concede that Hynix Semiconductor America is affiliated with Hynix Semiconductor, yes.

MS. ALVES: I just want to be clear. And then if you could also in your post-conference briefs provide the same level of detail with respect to whether or not you believe appropriate circumstances exist or do not exist.

MR. CONNELLY: We don't concede on that one.

MS. ALVES: That was my guess.

MR. PORTER: Me, too.

MS. ALVES: Also, a lot of your presentations this morning were directed to the domestic industry performance

factors with respect to Micron individually and Infineon individually. To the extent you're argue that your clients' domestic production should be included as part of the domestic industry, if you could then further elaborate on how that would impact our analysis of the domestic industry performance factors as well in your post-conference briefs.

MR. PORTER: Yes. Our post-conference briefs will obviously have data and tables with our argument that the domestic industry is all four producers. Our point today was that if you look at their own statements about their success and health, it's an indication, and since Micron is by far the biggest U.S. producer, at least it gives an indication of whether the domestic industry really believes it is suffering material injury.

MS. ALVES: I would like, if you could, to address a similar question to that that I posed this morning to Petitioners, and that is would you care to comment on the revocation of the antidumping orders on subject imports from Korea during the Commission's period of investigation, both factually if there are any circumstances that the Commission should be aware of regarding what you believe were the reasons why it was revoked and also, as a legal matter, to the extent that you believe there is any legal significance to the fact that there was a dumping order and that the dumping order was revoked during the period of

investigation.

MR. PORTER: I would like to address that, noting a few comments. First, Mr. Kaplan made quite clear why Micron chose not to oppose revocation. He knew he couldn't win the sunset case, and so that's just a decision that they made: Better just to let the order die than fight and lose in the end.

With respect to the effect of termination, the Commission asked this question in its questionnaire, and we provided, we thought, fairly compelling market share data about what the effect of the order was and what the effect of the termination has been. We showed that when the order was in effect, Hynix, the one who is being allegedly subsidized the most here, increased their market share. The one that was alleged was the only one to have been found dumping.

So when the antidumping order was in effect, Hynix increased their U.S. market share, and when the order was revoked, Hynix's market share decreased. So we would say that neither the order nor the termination had any effect on the market.

MS. ALVES: Would anyone care to comment at this point or in your post-conference brief on how the Commission should handle nonsubject imports in this investigation?

MR. PORTER: I'm sorry. In what respect?

MS. ALVES: Regardless of how we're defining nonsubject imports, and if you want to answer this in two different ways with respect to your proposed definition and with respect to any other proposed definition of nonsubject imports, what role do nonsubject imports play in the U.S. market? Sometimes there are arguments made about, well, if there is any sort of an issue here, it's because of nonsubject imports. I want to give you an opportunity to tell me what role they are playing in the U.S. market.

MR. PORTER: I think you'll see -- we believe, if you use a consistent method for determining country or origin, you'll see that nonsubject imports, I believe, are much greater than the share of subject imports from Hynix. And we think that's significant because if under Petitioners' theory it's whoever has the most volume is dictating the price, then Hynix's contribution to any price depression is much smaller than is nonsubject imports. I think that's what you'll see when the analysis is done properly.

MR. CONNELLY: Just to add one little point to that, Ms. Bishop said earlier that one of the keys to putting each DRAM die in the right box is to get the die assembled in the U.S. but fabbed overseas in the nonsubject import box. That's important. And then once you get everything in the right box, the role of nonsubject imports

certainly increases, and we will certainly contend in our post-conference brief with respect to the relevance of that under the Gerald Metals decision.

MS. ALVES: Thank you. I also asked Petitioners this morning, in the event of a dumping order, whether or not they believed it would be possible for the Korean producers to switch their fabbing operations to the United States, and the response was the fabbing operations here in the United States are much smaller in comparison to the fabbing operations in Korea. Would you care to address either this or any of the other arguments made in the threat context with respect to subject imports from Korea?

MR. PORTER: Just a few general comments. First, it is factually not correct to imply that a minority of Hynix and Samsung shipments to the U.S. market are, in fact, coming from the U.S. production. A substantial portion of the U.S. sales by both companies are already taking place in the United States, and those substantial facilities are already there. There is the potential to expand output of those facilities to some degree, but the other trend to keep in mind is that, as Mr. Swanson's testimony showed, for large OEMs, the computer companies that buy the vast majority of these chips, more and more of their operations are going offshore.

So the need to supply DRAMs to the IBMs and the

Compaqs and the Dells and the Apples of the world, the need to supply DRAMs in the U.S. market has actually been -- the relative portions are switching more and more overseas and less and less in the United States. And in a sense, if I were to pose a big-picture question for the Commission, to me it would be do we want to contribute to that trend?

MS. ALVES: Those are all of the questions I have at this point.

MR. FEATHERSTONE: Mr. Giamalva?

MR. GIAMALVA: John Giamalva, Office of Economics, and I would like to ask some of the same questions I asked the Petitioners this morning. That's, first of all, does the Commerce decision change any of the answers to the Commission's questionnaire, particularly with regards to interchangeability or differences between DRAMs, domestic and subject DRAMs?

MR. PORTER: No. The Commerce Department's decision on scope, since it was entirely consistent with their past determinations, does not require any alteration of the data that we submitted. It just means you have to put certain things in different boxes.

MR. GIAMALVA: You would agree with that, Mr. Connelly?

MR. CONNELLY: Certainly.

MR. GIAMALVA: Okay. Secondly, I asked the

Petitioners if Hynix and Samsung have rolled out new addressing modes or new speeds of double-data-rate DRAMs in about the same time period that other domestic producers had, and the answer was that Hynix was a couple of weeks later in rolling out double-data-rate DRAMs, and I would like to see if you agree with that and see what path Samsung followed in rollouts.

MR. SWANSON: Let me make sure I understand the question. As far as rolling out DDR technology, the respective companies, are they all similar with their execution of DDR rollout?

MR. GIAMALVA: Right. I want to find out if the rollout of double data rate and then the subsequent higher speeds of double data rate, if there was a difference between the timing of Hynix's rollout and those of Infineon and Micron, in particular.

MR. SWANSON: Well, actually, our double-data-rate production, we're increasing that right now. This quarter we've had a fairly large transition from SDR to DDR in this quarter. Next year, we view it to be, for instance, about 85 percent of our production will be DDR, so we're rapidly transitioning.

Now, as far as the relative positioning between companies, I think everybody would recognize that Samsung probably was the leader in DDR as far as shipments to the

industry in DDR and that Micron and Hynix are pretty close to each other with their rollout, and maybe Infineon a little bit behind.

MR. GIAMALVA: All right. Thank you.

MR. CONNELLY: Well, I can't give you the details about the relative speed of the rollout by Samsung vis-a-vis, say, Micron except to say that Mr. Appleton said Samsung was way ahead of Micron in rolling out DDR, but with respect to the details of that or what the economics of that meant specifically, I don't think we can say today, plus it's confidential. But I think we can give you some figures in our post-conference brief that might help show the speed with which at least Samsung brought DDR to market.

MR. GIAMALVA: Also, I would be interested in your addressing whether the U.S. facilities for Samsung and Hynix, if they rolled out the production at about the same time as the Korean facilities, Samsung and Hynix.

MR. PORTER: Do you want an answer now?

MR. GIAMALVA: No. In your post-conference brief will be fine.

And then for Mr. Swanson, you mentioned that when you quote a large customer such as IBM, you have certainly a lot more than just the price of the DRAM goes into the negotiation, including, if I heard you rightly, a commitment for a certain share of production to be attributed to that

customer. Is that a certain share of the production in your U.S. facility or a certain share of production in all of Hynix's facilities that would go into that discussion?

MR. SWANSON: As far as what I was trying to illustrate there is that the demand is worldwide from a company like IBM, so they are purchasing around the world. And so when we negotiate with them, we're developing a plan to support them at all of their facilities around the world, and it's a combination of production out of all of our facilities in the U.S. and in Korea.

MR. GIAMALVA: So the quote would concern DRAMs that were produced in all of Hynix's worldwide facilities.

MR. SWANSON: That's correct.

MR. GIAMALVA: Is there a difference in the product mix between your U.S. facility and the Korean facility?

MR. SWANSON: At times there are. I think you might have known that a couple of years ago we merged with LG. Now we have a synergy process, so all of the fabs are running similar processes now, so the capabilities are similar in the facilities around the world. So at any given time there may not be 100 percent coverage, let's say, in the U.S. manufacturing facility that there is in Korea. There is a larger capacity, as you know, in Korea. But we try to have a large breadth of product as well in the Eugene

facility here for our customers.

MR. GIAMALVA: And, Mr. Connelly, I have pretty much the same question. You noted that Samsung has a high percentage of its DRAMs are the noncommodity DRAMs, either RAM BUS or the specialist DRAMs. Is that product mix the same in the U.S. facility as in the Korean facilities, or are there differences between the two?

MR. CONNELLY: I think generally we can say there are differences, and I think this is simply typical of any global producer. You always have to start your pilot production somewhere, and for Samsung they start in Korea. Once you've got the process down, once you get the yields to an acceptable level, once you understand how to improve your yields, then you can start moving it around the world. I'm sure the same is true with Micron, except they just may move it in reverse from the U.S. overseas.

MR. GIAMALVA: So the Korean facilities would have a higher share of the RAM BUS and specialist DRAMs, or is that not accurate?

MR. CONNELLY: Let me answer that in the brief, if it's okay.

MR. GIAMALVA: Okay. Thanks. And, finally, I guess one last question is, when your OEM customers qualify Hynix or Samsung DRAMs, is that qualification based on a particular fab, or are all of the DRAMs worldwide qualified

at pretty much the same time?

MR. SWANSON: Generally speaking, it's not by fab, but some customers do require that. Some are more sophisticated than others in their quality and requirements that we have to meet, so it's not really a uniformity between customers. Some require auditing of a fab and visiting the fab. For instance, if you started in Korea and went to Eugene, they may, before you started the Eugene shipments to them, they would require you to go ahead and do an audit. That's not typical. There's only a few customers that really are that sophisticated. So generally once you qualify a part, it's qualified in most of the fabs.

MR. GIAMALVA: Mr. Connelly, is the same true for Samsung?

MR. CONNELLY: We're out of my area of expertise at this point. I'll get you the answer, though.

MR. GIAMALVA: All right. Thank you. That's all I had.

MR. FEATHERSTONE: Mr. Baker?

MR. BAKER: No questions.

MR. FEATHERSTONE: Mr. Carr?

MR. CARR: Bob Carr, Office of Industries. I had a question similar to the Petitioners' earlier today. To what degree do domestic and Korean DRAMs share the same channels of distribution, for example, sales to OEMs versus

distributors and spot market sales versus contract sales?

MR. SWANSON: I think actually as far as the OEM customer base, the large, multinational accounts, we're very similar to all of the major producers of DRAMs in that category and also similar in the spot market as well. We have chosen not to be a large participant in the distribution portion of the business, which is franchise distributors. The terminology is a little different around the world, but using a U.S. franchise distributor is a very small portion of the market, and we do some business through that channel, but it's very small. So Micron and Samsung and others are much larger than us in that particular segment of the business.

MR. CARR: Mr. Connelly, is it the same for Samsung?

MR. CONNELLY: We can give you a little more detailed breakdown in the brief. I think your question is generally true. I think that it is generally true that Samsung focuses on the large accounts. They call them "global accounts," companies like I mentioned, the household names; that's the predominant portion of their business, but then there are other segments as well. I can break them down for you in the brief.

MR. PORTER: I think in your questions about distribution, I also, though, think you should look at

different types of DRAM products, and there I think you will see a difference among the different suppliers. Over time, there has been much more fragmentation of the DRAM products. Suppliers have to offer more and more different types of DRAM products; and, therefore, suppliers have kind of carved out their respective niches.

As we heard, Samsung is, you know, not the only, but they are the king of the supply of RAM BUS. Hynix is very strong in graphics. Hynix also has a bit of a niche in the so-called legacy products. There is a ton of publicly available data, and what we will show for you is that really when you look at by product, the so-called commodity competition starts to break down. Different suppliers are focused on different types of products; and, therefore, the competition in certain areas is rather attenuated.

MR. CARR: Okay. Thanks. So there might be a general area of products that everybody might supply, but on the periphery there are items that perhaps only one or two companies might specialize in or supply.

Are there differences also in terms of the end uses for the products? For example, I understand that RAM BUS might be used often in consumer electronics applications. For the other specialist DRAMs, are they destined for products other than perhaps the PC market, and in that sense do they not necessarily compete with the

vanilla or commodity-type DRAMs?

MR. SWANSON: Yeah. I think a good example of that is graphics. For instance, typically they are not using as high density parts as the main computer manufacturers are using right now for their main memory, and there's differences in architecture, like, usually they are a wider type of architecture. So there are things like that. Also, the consumer electronics uses, again, lower density product. They don't need as high a performance, maybe even lower performance in the computer market. There is now being developed some very low-powered DRAM, for instance, for the cell phone market which would not be used, for instance, in a major PC application.

MR. CARR: Okay. Thank you. I don't know if it would be easy to make a general statement, but are there items or end-use products that perhaps the Korean suppliers sell into that the domestics don't or vice versa?

MR. SWANSON: I think most companies are trying to be as diverse as they can to support a wide customer base. It's just because of the big swings in the industry, you want to have as many quals and market places as possible to be qualified. So it just depends. Some have focused, as Dan said, a little bit more on one versus the other. One might be a little bit stronger, for instance, in disk drives because they are keeping their fabs optimized, let's say,

for legacy products versus somebody who is moving on. As an example, maybe Samsung is focusing on the very high end, for instance, because they have some capability that differentiates themselves. So it does vary depending on the marketplace.

MR. CARR: Okay. Thanks. Just one more question in that vein. I believe earlier Micron made a point that still the vast, vast majority of DRAMs are consumed by the computer industry. Do you believe that's the case, and do you see in the future is that likely to change at all in the near term?

MR. SWANSON: We do believe -- it's true that the computer market segment is still the largest and will remain over time. However, there are other marketplaces that are starting to emerge. One that could be very large is, as I mentioned, the cellular phone marketplace. Typically, right now that's been a static RAM or pseudo static RAM has been the major memory component in that particular application, but as DRAM develops its technology, that could have some very significant impact on the communications portion of the market going forward. And then, again, a lot of wireless -- whenever the economy turns around, hopefully soon, here, we'll figure out that some of the wireless applications will grow. So there are other niche ones, but certainly the predominant will continue to be the computer and peripheral

marketplace, but we do see opportunities for, again, more fragmentation there.

MR. CARR: Thank you. I don't have any additional.

MR. FEATHERSTONE: Mr. Stewart?

MR. STEWART: No questions.

MR. FEATHERSTONE: Ms. Noreen?

MS. NOREEN: Ms. Bishop, your figure of the 85 percent was fab, and 15 percent was assembly in terms of costs of production.

MS. BISHOP: Yes.

MS. NOREEN: And that is really in complete agreement with what Micron said earlier this morning --

MS. BISHOP: Essentially.

MS. NOREEN: -- as far as the early part of the generation.

MS. BISHOP: That's right.

MS. NOREEN: What would you say in terms of the end generation, for example, maybe the 64 megs or something now?

MS. BISHOP: Actually --

MR. PORTER: I would like to ask Mr. Kim to answer that question.

MS. BISHOP: Our client.

MR. KIM: At least in our company, that is

incorrect. If we produce four meg or one meg DRAM, we can produce die costs tremendously down like 50 percent compared to assembly costs. But right now we produce 200 PC DRAMs because market does not -- us. We cannot produce any more one meg or four meg DRAMs. This means if we produce one meg or four meg DRAMs, maybe we can produce over 2,000 dies per wafer, but at this time we cannot produce -- any company cannot produce, as I know, 500 dies per wafer, so that is incorrect, as I know.

MR. PORTER: I understand your question. Let me attempt a general answer, and then what we will try to do is to map out over time the actual experience of Hynix. You correctly identified, of course, you know, at which point in time you do the comparison, and that is a fair question. Certainly, as time goes on, okay, depreciation is a huge cost of a new fab, and it's a huge cost of any new upgrade in equipment. Okay? In this industry, I think we heard it's roughly three years.

So as you start to get down toward, you know, the end of the third year for that particular DRAM, of course, the depreciation of equipment will be down, and maybe the relative of cost differences will change. But then what happens? You have another upgrade, and so really the question is, you know, it's possible, which Micron did in their submissions, to pick a point in time that maybe it

would inch up toward 30 percent, but if you take all of the upgrades and all of the new fabs into account, I think you will see the 85, 15 percent over time taking into account new generations of products.

MS. NOREEN: Okay. You're going to check on that, though.

MR. PORTER: Yes. What we're going to try to do for you is give you a historical time for a single product, but then the company's experience as a whole over time.

MS. NOREEN: And along with that you would give us, then, an average of what it would be for -- I guess that's what you --

MR. PORTER: Yes. I'm sorry. That's the second part of what I was saying.

MS. NOREEN: Okay. Good. Hynix has this fab in the United States. Do you case in the United States?

MR. PORTER: No. All casing is done in Korea.

MS. NOREEN: All casing is done in Korea. So then I would presume that any sales that you have in the United States of U.S. dies were sent to Korea to be cased over there and then came back to the United States and were sold here. Correct?

MR. PORTER: That's correct.

MS. NOREEN: So then I have only one more question, and it refers, again, Ms. Bishop, to your slides

at the beginning. When you were saying there was no benefit of subsidies, is this correct that you were saying the U.S. --

MS. BISHOP: The U.S. operations --

MS. NOREEN: The U.S. operations --

MS. BISHOP: The U.S. operations do not benefit from the subsidies occurring in Korea.

MS. NOREEN: But the U.S. operations produce a product that there is no sale for -- is that correct? -- until it's been cased, or is there -- am I missing something?

MR. PORTER: No. If I could take a stab at this, honestly, I think the issue of when the U.S. operations benefit from the subsidy is irrelevant here, okay, because the Commerce Department has determined that the only thing that you are to look at with respect to subject merchandise import penetration is where the wafer has been made in Korea. We can sort of have debating points about, you know, whether the U.S. benefits from the fact that there is casing, and there are some alleged subsidies going on there. But I don't see really where that gets us because the Commerce Department has said this is what subject merchandise is. That's not going to change, and so I'm not exactly sure I see why you're asking a question about the subsidies on the U.S. facility. Again, I'm just not sure

where that's going.

MS. NOREEN: Well, the only reason I'm asking is it was on your slide, and it was a point that you raised, so I was just wondering --

MS. BISHOP: Right. It is relevant to the related party inquiry, and we'll brief it. We'll cover that in our briefs.

MS. NOREEN: Thank you very much.

MS. BISHOP: You're welcome.

MS. NOREEN: No more questions.

MR. FEATHERSTONE: Okay. Thank you very much for your testimony and answers to the questions. With respect to the slide issue, we'll concede that our rules perhaps have not kept pace with technology as far as presentations are concerned. However, it does seem to me that information was presented here that the Commission isn't able to evaluate, nor are parties able to comment on because we don't have it on paper. So while we try to get our rules to make it abundantly clear to everyone, we would like you to file a copy of the slides and serve it on parties as soon as you can, preferably this afternoon, no later than Monday.

MR. PORTER: If the Commission wants this submitted for the record, we will do it this afternoon and serve it on the parties this afternoon.

MR. FEATHERSTONE: Thank you, Mr. Porter. And we

will attempt to clarify this. We are moving into an electronic filing world, in theory, very soon, so we know we're behind the eight ball on that.

MR. FEATHERSTONE: Mr. Kaplan, would you like five minutes, ten minutes? Okay. We'll take a ten-minute break and then return for closing statements. Thank you.

(Whereupon, at 1:05 p.m., a brief recess was taken.)

MR. FEATHERSTONE: Can we resume the conference, please? Welcome back, Mr. Kaplan. Please proceed.

MR. KAPLAN: Mr. Appleton will begin.

MR. APPLETON: Well, it's now good afternoon. I asked Gil if it would be okay if I started the comments that we had right now because I heard so many misleading comments that I wanted to respond to them, and, of course, Gil was afraid that he would have no time left by the time I was finished. With all due respect, Mr. Connelly, I don't ever recall saying in my entire career that Samsung was way ahead of Micron in anything.

You know, often -- I read some of the comments that were put up on the screen -- often we are charged as executives with trying to balance between keeping investor and employee confidence versus the underlying industry status, and that's just a burden that we carry that we obviously try to take into account as we speak publicly.

I want to address a couple of things very specifically. With respect to the capacity that was pointed out that was gained by Micron, as I mentioned in my testimony, that capacity already existed. That was not capacity that Micron brought on. It's because companies were driven out of the business, if you will, and because there was no other place for them to go.

I think it's actually fortunate that we were in a position because of our financial management to be able to take on some of those burdens, including the people that exist in the facility that we most recently acquired in Virginia. Yes, they have less people. In fact, they have about 500 less people, but we were able to nonetheless save the thousand people that are still there, and it did add to our output, but it was actually less output than already existed in the market when we acquired the facility.

I find it interesting when we talk about how this industry is healthy, or the opposing side talked about how this industry is healthy, do you really think that Toshiba would have sold us a facility that they built for over $2 billion for $300 million? Do you really think that Texas Instruments would have sold us their operations when they had spent over three and a half billion dollars on them for our stock worth about $700 million? Of course, they wouldn't have.

The competition that exists in this industry has been for a long time, but we have been incurring this difficulty over and over and over again, and I think that what you are in large part seeing is companies giving up on trying to fight capacity that ultimately doesn't fall away like it's supposed to, inefficient capacity that's not falling away like it's supposed to, and continuing to be subsidized.

Switching quickly to this pricing issue, pricing is the key factor in your ability to sell product to most customers. All of the customers that were listed up there are the same customers that we sell to. In fact, pricing is often used as a leverage to obtain qualification, and underpricing is used often as a leverage to convince a customer that they should try to qualify you to bring on your product line.

With respect to injury, it's somewhat ridiculous to listen to the comments that there has been no injury. Last quarter was Micron's worst quarter in the history of our company. We lost more money in the last quarter than we did in the history of our company. When we came out of a cycle that was okay, we started with $2.2 billion in cash. We are down to a billion in cash, and, by the way, we raised that billion in cash on normal market terms in order to have the cash balance that we have today. So it's continuing to

come down, and, frankly, next quarter our cash balance will be even less by a significant amount.

This industry is not healthy. It has been injured. It's worse than it's ever been in the history of my experience, and I would challenge anybody in this room, if this industry is so good, how many people here are taking no compensation for over a year? I am. Do you really think I would be doing that if everything was just great? Of course, I wouldn't.

MR. KAPLAN: Thank you. Let me just address a couple of the points in the brief period of time. What the Commission has before it is a case that was initiated by the Department of Commerce. If you look at page 100 and go on in our petition, many, many subsidies are discussed with respect to Samsung as well as Hynix. For the purpose of this preliminary determination, the Commission has to look at the initiation and the subsidies alleged on Samsung and on Hynix.

With respect to the like-product issues that Ms. Bishop addressed, the Commission has decided those. They have decided what the domestic industry is in terms of assembly and in terms of wafer fabrication. There is absolutely no reason to change that decision. In fact, it's even more right now than it was in the past because assembly has become a greater share of the overall costs of

production and hasn't become less, assembly and test, which is part of the assembly phase.

Mr. Swanson talks about how some purchases are made offshore, and it's a worldwide market. This is a countervailing duty case. It's a subsidy case. The subsidies impact the production. The production comes into the United States and harms United States producers. Maybe it harms people in other parts of the world. Maybe there would be a case in another part of the world. Well, there is a case in another part of the world. There is a case in Europe. This is not a dumping case. This is a countervailing duty case, and the subsidies which have been given to the Korean producers have harmed the U.S. industry. They may have harmed industries elsewhere, too. Maybe you will hear from some of those other industries. But the fact that some purchases may be made somewhere else, and then the product comes into the U.S. and hurts U.S. industry is not a defense to whether there is injury.

I found it very unusual that Mr. Swanson and then in some of the other presentations talked about the major customers of Hynix and the customers of Samsung: IBM, HP, Compaq, Dell, Gateway, Apple. Those are the customers of Micron, too. It's no secret. Those are major customers, and we're competing head to head, and the subsidies are taking away sales and lowering prices that we would

otherwise be making and that Infineon would otherwise be making.

Mr. Connelly talks about price effects and whether there is a nexus between the prices and the subsidies and the like. The statute talks about the impact of the imports. Of course, it also talks about volume. It's not only a price statute, though price is very, very important, but volume is, too, and the volume of imports is very, very large.

I don't know if I can add anything on injury to what Mr. Appleton said, but, being a lawyer, I can't keep my mouth shut all of the time. What's happened is that Hynix has added an enormous amount of capacity. Samsung has been subsidized. Hynix has kept capacity on board that shouldn't have been kept on board, and this has had an enormous impact on the market.

Let's look at the normal indicia of injury. Volume of imports is increasing. You'll have the numbers. Those numbers flash on the screen. I guess you'll have those, too, but you'll have the numbers in the questionnaire responses, and you'll be able to look at them and see what's really going on. But the volume of imports is increasing. The impact on prices: Increased supply from Korea has depressed prices. And the impact on domestic industry: There is a negative impact on market share, on

profitability, on growth, and on investment.

I think it was Mr. Durling who said don't look at the profit levels or the level of operating income. Well, operating income is an important factor in injury, and the operating income, and I don't think I'm saying anything that hasn't been said before, has not been good here. We've had a billion dollars of losses at Micron last year and a billion dollars of losses at Micron this year. Operating income is certainly a key factor and has been very significant.

Talk about cyclicality and the cycles in the industry: If you look at the prices here, the prices have gone well below any learning curve or normal cyclical trend. Mr. Love discussed that, and we will discuss it further in the brief. The real problem is here that capacity during a down cycle usually gets closed down. The exact opposite has occurred in Korea. More capacity has come on, and capacity that is inefficient, nonmarket capacity has not been downsized; it's been maintained in all its respects.

I would just conclude by saying again that the traditional factors in injury are all shown here. Operating losses, significant market share, drops in prices, impacts on prices; those are the key factors that you need to look at, and I think, given the very significant impacts which are clear from the public data and which will be clear from

the questionnaire responses once those are all analyzed, I believe, I think there is a very clear, preliminary indication of injury in this case.

We appreciate your time, and we'll have some more to say when we file our brief next week. Thank you very much.

MR. FEATHERSTONE: Thank you, Mr. Appleton and Mr. Kaplan.

MR. DURLING: For the record, Jim Durling with Wilkie, Farr & Gallagher. I would just like to close by highlighting a few things that this case is not about. First, this case is not about supply. Rather, this case is about relative supply, and one of the crucial facts the Commission has to grapple with is if Micron is right, if Korean government subsidies are having all of the adverse effects that they are describing, why is Hynix losing market share, losing market share globally, losing market share in the United States?

Second, this case is not about supply. This case is about imports and imports into the United States market. If Hynix is shipping DRAMs to a customer outside of the United States, if those DRAMs never enter the United States, they are not subject imports subject to the Commission's review here. Under Micron's theory, if Hynix were shipping, you know, a handful of DRAMs to the United States, that

would somehow create all of the injury, and they are trying to essentially extrapolate global phenomena into the U.S. market. But it's important, as the Commission goes forward, to understand that your mandate is to look at the role of subject imports coming into the United States and what are the effects of those imports in the United States. If the subject imports are not causing the injury, then there is not a legal basis to impose countervailing duties here.

The third thing this case is not about: This case is not about Samsung. No good-faith reading of the petition, no good-faith listening to the presentation this morning would leave anyone with the impression that this case is about anything other than Hynix, and that's the central dilemma with Micron's theory of the causal link in this case. The alleged subsidies all go to Hynix, but Hynix has been losing market share. There is virtually no allegation with respect to Samsung, and Samsung has been having some increase in market share. But even if you put them both together, Hynix and Samsung together have been relatively flat in the market. The gain in market share has come by the U.S. producers, in particular, Micron.

The fourth thing this case is not about is the case is not only about profits. My point was not that you ignore operating profits. I recognize it's one of the statutory factors, but it's one of 16. The central message

of my presentation today was look at the other factors, and I know there is a tendency in cases to focus on operating profits because it's an easy number to understand, and there is a tendency not to put as much emphasis on other measures of financial performance. But my request today is that this is a case where it is critical for the Commission to look more broadly, not outside the statute. I'm not asking you to go outside the statute; I'm simply saying look at the other statutory factors, not because I think they are important but because the domestic industry thinks that these other factors are important.

The fifth thing this case is not about: It's not about signals. The Commission's job is not to send a signal to governments around the world. The Commission's job is to look at the facts, to look at the law, and to make a decision that is based on the facts and the law. This case is not about history. This is not about Japanese behavior in the 1980's. A substantial part of what you heard this morning was kind of reliving old trade conflicts. This is about a particular set of facts at a particular point in time. It's about now; it's not about the past.

And, finally, this case isn't really about our words. I apologize if there is some concern about the slides. We'll serve them at the end of the day. But to be honest, they don't need to wait for my service copy to see

what was on the slides. I counted out of the 65 slides that went up about 70 percent of them were simply copies of slides from Micron presentations. There is no element of surprise here. We simply took their presentations to the rest of the world and pulled out slides to say here is what they have been saying. So not our words; their words.

MR. CONNELLY: I'll be very brief. As far as the Petitioners' presentation today with respect to Samsung, I think we can boil it down by saying if we say it fast enough, and we say it often enough, maybe some of it will stick. If we say there are subsidies, and we say the volume is large, and if we say a DRAM is a DRAM is a DRAM, maybe we can pin injury on Samsung and Hynix together because we know we can't pin injury on Hynix alone for all of the reasons Mr. Durling said. But I think it was very revealing today and important to us that you all recognize that there are very significant differences between the two Korean respondents here and that there are very significant differences in their product mix and ways they do business, and I'm sure that your analysis will reflect that. Certainly, our brief will.

Two other points. I lost count today, I think at five, when I heard the word "Hynix" and the word "aggressive" in the same sentence. I never heard that with respect to Samsung, and I think that's also very revealing.

This, again, in their own words, this case is about Hynix.

And, finally, Lynn, I think this may be the last time you and I will be in this room together, although there may be something you know that I don't know, but I think I can speak for everybody in this room who has had to deal with you over the years, you have treated us fairly. It hasn't mattered the case. It hasn't mattered which side of the aisle we were on. We've always felt that we got a fair shake from you, that your door was always open, and it's been a privilege and a pleasure to have you in that chair. Thank you.

MR. FEATHERSTONE: That's very kind of you. It's been my pleasure. And we do have another conference because we had a filing two days ago.

A couple of real quick reminders that the deadline for the submission of corrections to the transcript and briefs in this investigation is November 27. Happy Thanksgiving. If briefs contain business-proprietary information, a nonbusiness-proprietary version is due on the 29th. The Commission has scheduled its vote for the investigation at 2 p.m. on December 13, and it will report its determination to the Secretary of Commerce the following Monday, December 16.

Commissioners' opinions will be transmitted to Commerce and placed in the public record a week later, on

December 23rd.

Thank you again for your participation. This conference is adjourned.

(Whereupon, at 1:26 p.m., the conference was concluded.)

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CERTIFICATION OF TRANSCRIPTION

TITLE: DRAMS and DRAM Modules from Korea

INVESTIGATION NO.: 701-TA-431 (Preliminary)

HEARING DATE: November 22, 2002

LOCATION: Washington, D.C.

NATURE OF HEARING: Preliminary Conference

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceeding(s) of the U.S. International Trade Commission.

DATE: November 22, 2002

SIGNED: LaShonne Robinson
Signature of the Contractor or the Authorized Contractor's Representative
1220 L Street, N.W. - Suite 600
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceeding(s) of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker-identification, and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceeding(s).

SIGNED: Carlos Gamez
Signature of Proofreader

I hereby certify that I reported the above-referenced proceeding(s) of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceeding(s).

SIGNED: Beth Roots
Signature of Court Reporter